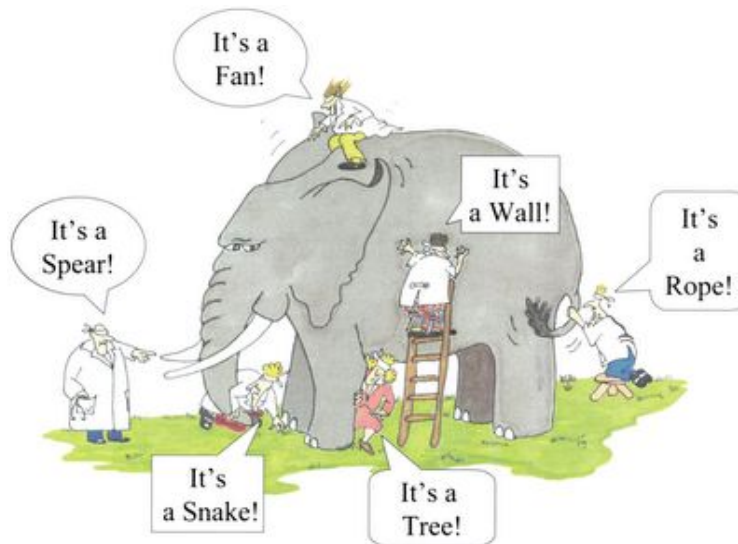


## Diversity@ISCA Motivation and Methods

Like biological populations, scientific communities atrophy and ultimately fail if they are too small or too homogeneous. - Janet Pierrehumbert, Mary E. Beckman and D.R. Ladd, 2000

### 1. Motivation

The goal of the ISCA Diversity committee is to ensure that the speech communication scientific community reaches and maintains sufficient diversity to sustain future growth. We seek to maintain diversity of disciplinary training, because time-tested standards of proof in different disciplines often complement one another in the advancement of science (Figure 1). We seek to maintain diversity and be inclusive of geographical region, gender, orientation, race, ethnicity, age, and disability because we intend that no potential contributor to the study of speech communication will ever find themselves unwelcome in our scientific community.



*Figure 1: Time-tested standards of proof in different disciplines often complement one another in the advancement of science.*

### 2. Methods

Disciplinary training, geography, gender, orientation, race, ethnicity, age, and disability are different targets, and the methods for promoting diversity in each of these areas are slightly different. All areas are guided by a common philosophical stance: diversity is effectively promoted by removing barriers that prevent people from joining ISCA, and by retaining successful current researchers.

#### 2.1 Diversity of disciplinary training

ISCA exists because “developments of this new field could be achieved only through close collaboration of science and technology” (Hiroya Fujisaki), and its founders judged that such close collaboration could only be fostered by an organization dedicated to “spoken language processing, not only by machines, but also by humans.”

Each Interspeech is organized by a different local organizing committee, which automatically brings an aspect of diversity into the organization of the conference. The reviewing process is overseen and the technical program compiled by a committee of **Area Chairs**, each supervising a technical area that may be primarily focused on human speech processing (e.g., “Speech Perception, Production and Acquisition”), primarily focused on machine speech processing (e.g., “Speech Coding and Enhancement”), or focused on a combination of both (e.g., “Analysis of Paralinguistics in Speech and Language”). This diverse set of researchers collaborates to ensure that the reviewing process is fair and that the resulting conference program each year is of high quality.

Diversity of disciplinary training is specifically encouraged by ISCA’s support of **special interest groups (SIGs)**. A SIG is proposed to ISCA by a group of researchers interested in encouraging research in a new topic area within speech communication, or research about a language or family of languages not adequately represented in existing ISCA conferences and workshops. The ISCA Board reviews applications for new SIGs, and provides seed money to help with the launch of approved SIGs. SIGs organize training workshops, research workshops, special sessions, and/or competitions on the topic or language of interest. There are currently 15 topic SIGs and 7 language SIGs (<https://isca-speech.org/iscaweb/index.php/sigs>).

ISCA funds **Training Schools**, which are typically summer schools or winter schools geared towards providing graduate students, early stage researchers, and practitioners with background knowledge of selected topics in speech communication. Priority is given to proposals from countries where the presence of ISCA (in terms of membership) is limited. ISCA supports training schools with a contribution for the costs of invited lecturers (travel expenses and daily allowance, but not lecture fees) and student grants.

ISCA **Student Collaboration Grants** support students who, as part of their training, would benefit from collaborating with students in institutions other than their own. For example, a student working in an institution which does not have a speech research group may visit one that does in order to collaborate with students there; conversely, a student already working on a Speech Research Ph.D. may visit an institution which does not have a speech group in order to collaborate with students there.

## 2.2 Geographic diversity

Each **Interspeech** is organized by a group of volunteers from the speech community, who submit a bid describing their proposal to organize Interspeech at a particular location. These bids are evaluated by the ISCA Board and the Interspeech Advisory Committee on the basis of many factors to determine which bid is the best choice for the year. Among the factors

influencing the selection of the bids

([https://www.isca-speech.org/iscaweb/images/files/conferences/conference-guidelines\\_2017.pdf](https://www.isca-speech.org/iscaweb/images/files/conferences/conference-guidelines_2017.pdf)) are: experience and diversity of the organizing committee, in terms of gender, geographical diversity, and appropriate diversity of disciplinary expertise; location of the conference, including travel accessibility as well as an attempt to visit countries and regions where the conference has never previously been held; and features of the venue, including accessibility to participants with disabilities.

ISCA and each year's Interspeech organizers provide a set number of **travel scholarships** to students and young researchers. Exceptionally, researchers in other special situations or coming from low income-level countries may also apply. Travel scholarships are awarded based on need: students applying from underrepresented geographical locations receive first priority, second priority is given to the funding of students from as many countries as possible, and third priority is given to geographic diversity within each country. Part of the sponsorship money for the Interspeech conferences goes to supporting these travel grants. The Interspeech organizers commit to providing 20 travel grants, which cover the costs of registration and accommodation, while ISCA provides an additional 40 grants. Grants are small, but are usually sufficient to cover a large percentage of applicants.

ISCA **Distinguished Lecturers** are selected by a standing committee, for appointments of two years each. Distinguished Lecturers commit to at least two Lecture Tours in a two-year term, including possible travel to regions specially identified as under-represented in ISCA programs (e.g., Eastern Europe, Africa, West/South/South-East Asia, and South/Latin America. DL tours to other ISCA under-represented regions will be reviewed and approved by ISCA Distinguished Lecturer Selection Committee).

**SCOOT (Speech Communication Online Training)** provides a directory of online learning materials (lectures, slides, ipython notebooks, exercises, and complete courses) on topics in speech communication. Materials are listed in SCOOT if they are available to any reader, with the specific intention that these materials may be helpful to students who have no geographically proximate source of comparable training material.

The ISCA **Geographical Outreach Committee** exists to extend the services of ISCA to different parts of the world, especially those regions where many speech researchers may not be able to attend Interspeech conferences and participate in the many speech research activities easily. The Geographical Outreach committee is empowered to take a variety of actions in support of speech communication researchers in geographical regions with less historical representation in ISCA, as listed at <https://isca-speech.org/iscaweb/index.php/training?id=23>, for example: (1) develop sister-association relationships between ISCA and national or local associations of speech researchers, (2) partially sponsor regional, national or local workshops, courses, meetings, conferences or events on speech related areas, and invite via ISCA speakers and participants from other parts of the world, (3) recommend students or young researchers for travel grants, (4) distribute information about ISCA on-line services open to non-members, including the ISCA

archive of scientific conferences and workshops, the ISCApad newsletter, and SIGs, (5) provide international distribution of calls for papers of conferences and events held in the region, (6) help with the establishment of one or more Language Special Interest Groups (SIGs) in the region, (7) arrange for Distinguished Lecturer tours of the region, (8) recommend distinguished researchers in the region to participate in international research activities, for example to review papers, to serve as journal editors or scientific committee members, session chairs or invited speakers of conferences and workshops, (9) introduce interested researchers to possible collaborators for programs such as the [Fulbright Scholar Program](#), [JICA SATREPS](#), and the ISCA-funded [Christian Benoit award](#), (10) provide links to on-line speech communication training programs via the [ISCA SCOOT](#) program, and (10) propose to ISCA any other useful action which may be taken to help the researchers in the region.

### 2.3 Diversity of gender, orientation, race, ethnicity, age, and disability

Methods implemented by ISCA to promote diversity of gender, race, ethnicity, age, disability, and socioeconomic status are based on frequent reviews of the scientific literature, including experimental studies published in other scientific disciplines, and including reviews published in the sociology of science. Some of the methods we pursue include

- mentoring (supported, e.g., by [Dennehy and Dasgupta, PNAS 114\(23\):5964-5969](#) and [Lisberg and Woods, J. STEM Education 19\(3\):14-20](#)),
- providing networking support to the members of under-represented groups (supported, e.g., by [Vettesse n+1 2019](#), and the studies reviewed therein)
- providing [clear guidelines against harassment](#), and a confidential process for investigating and resolving claims of harassment,
- clearly stating our commitment to diversity (supported, e.g., by [\(Ku et al, Journal of the American College of Surgeons 213\(2\):294-305\)](#), and
- removing barriers to participation before they are a problem whenever possible (supported, e.g., by [Brown, Thompson and Leigh, 2018](#)).

Mentoring: ISCA sponsors an annual **Young Female Researchers in Speech Science and Technology Workshop (YFRSW)**, inviting participation from female Bachelor's and Master's students in speech. This day-long workshop, usually held the day before Interspeech, invites students to present their research to their peers and to faculty mentors. Holding YFRSW before Interspeech, rather than after, tends to encourage its participants to develop networks that, in some cases, sustain them throughout their graduate careers. Participants are supported through a generous stipend (sponsored by industry) that enables them to travel, attend the workshop as well as Interspeech (accommodation & fees)

Networking: Networking among female speech communication researchers is facilitated by a couple of mailing lists, for female and non-binary-identifying researchers at the mid-career and senior levels, maintained by the ISCA Diversity Committee.

Networking: The first annual ISCA LGBTQI\* meeting was held at Interspeech 2020, with the purpose of ensuring that LGBTQI\* speech researchers are aware that they are welcome in the speech communication research community. Students and researchers attending the meeting were told about ISCA's harassment policies, and about mentorship opportunities available to all ISCA members. It is hoped that these meetings can provide a forum for ISCA to get feedback from this group and hear of any issues.

Addressing Harassment: ISCA's code of conduct for conference and workshop attendees (<https://www.isca-speech.org/iscaweb/index.php/about-isca?id=278>) forbids harassment or discrimination on the basis of gender, sexual orientation, race, religion, disability and physical appearance, and provides a confidential resolution process in case of complaints.

Public presentation of efforts to enhance diversity in terms of gender: [https://womenspeech.herokuapp.com/](https://womensspeech.herokuapp.com/) is a self-edited directory of female researchers at the levels of post-doctoral fellow through senior faculty/senior executive. The purpose of the directory is to encourage those, e.g., writing nominations for scientific awards, or inviting plenary speakers, to search outside of their personal contact networks, in order to consider qualified female speech researchers with whom they may not be personally familiar.

Removing physical barriers: Diversity and inclusion are important to ISCA in terms of our conference organization teams. Each Interspeech, and every ISCA-affiliated workshop, is organized by a group of volunteers from the speech community, who submit a bid describing their proposal to organize Interspeech at a particular location. Given Interspeech's size, it is normally organized at a large conference center, most of which already have substantial accommodations to make sure that the venue is accessible to participants with disabilities. The exact structure of these accommodations vary from year to year given the different locations; however, information about accessibility is an integral part of the bid which potential organizers submit. We are also working to make accommodations for participants who need to bring children to the conference with them, and for others who need access to a quiet space. Interspeech 2019 in Graz, Austria, was the first Interspeech to offer child care. While providing child care presents some substantial difficulties for the organizers in terms of legal liability, we were very happy to see this made possible. In this year's round of bidding for Interspeech 2023, all of the bids included proposals for accommodations for parents and/or child care services, and we have made this request explicit for organizers planning future Interspeech bids. Interspeech 2019 also provided access to a quiet room, which was used by nursing mothers and people who needed space for religious practices, among others.