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Improving global participation in the sigcse technical symposium

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Panel

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KEYWORDS

Attendance; Inclusiveness; International; Membership; Participation; SIGCSE; Special Interest Group; Symposium

1 SUMMARY

SIGCSE is a global organization with members from well over 100 countries, but attendance at SIGCSE conferences is not always reflective of membership as a whole [5]. Attendance at the SIGCSE Technical Symposium (called the Symposium here) is overwhelmingly from the United States, with more than 92% of all attendees in recent years having a U.S. affiliation. Roughly half of the remaining 8% of attendees come from Canada with only 4% of attendees from the rest of the world, as shown in Figure 1. Researchers from the U.S. co-author 86.80% of all Symposium contributions, which includes 79.10% of all Symposium papers and 92.90% of all other Symposium contributions. This is well above what one would expect from SIGCSE membership which is on average 80% American.

There is reason to be concerned with geographic representation at SIGCSE conferences. Conferences are the most common outlet for research in the computing education community, and if participation is geographically limited the research will not include or reach everyone it should. One of the benefits of conference attendance is networking, and the absence of SIGCSE members from certain countries may be impeding innovation for the community as a whole. SIGCSE conferences are also a driver for membership, which is crucial for the health and future of the organization.
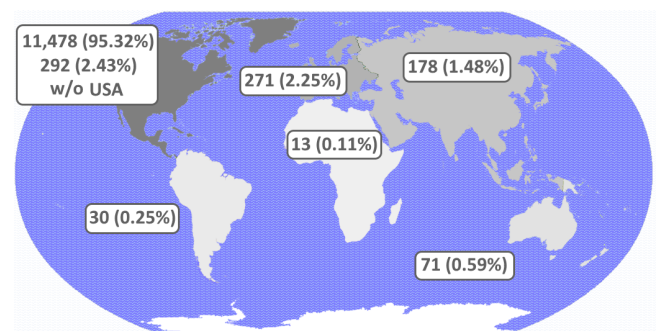
Figure 1: Symposium attendance by continent, 2010-18

Participation and attendance at the Symposium is particularly important. As the flagship conference for SIGCSE, it represents the largest gathering of SIGCSE members during the year. It also offers a greater diversity of events than other SIGCSE conferences, including workshops aimed at educators rather than researchers, pre-conference events, the annual business meeting for SIGCSE, and the largest number of exhibitors found at any SIGCSE conference. The symposium also publishes a large percentage of worldwide research in areas such as introductory programming [1], highlighting the importance of diverse authorship and audience.

The aim of this panel is to examine non-U.S. participation at the Symposium, with the ultimate goal of improving global participation in the conference.

2 PANEL STRUCTURE

After a six minute introduction by the moderator on the state of global participation in SIGCSE and the Symposium, each remaining panelist will be given six minutes to present their positions on non-U.S. participation in the Symposium. The moderator will then facilitate audience discussion during the remaining 45 minutes of the panel. We are particularly interested in hearing lesser-known issues impacting geographic diversity at the Symposium as well as ideas on possible solutions for the issues raised by the panelists and audience.

3 POSITION STATEMENTS

3.1 Amber Settle (moderator)

Position. Representative geographic participation in all SIGCSE conferences is crucial. Awareness of the opportunities available at the Symposium, funding sufficient to cover costs, appropriate and contextualized reviews, and a welcoming environment for all members of the SIGCSE community are among the basics needed to improve participation. But these things alone may not be sufficient. Each member of this panel will offer their views on why participation in the Symposium is currently geographically restricted and what might be done to improve engagement in their region.

About. Amber has been a member of the SIGCSE Board since 2010 and currently serves as SIGCSE immediate past chair. She will moderate the contributions of the panelists, solicit questions from the audience, and provide a broader context for decisions made by the SIGCSE Board in the past decade and insight into what changes can be made by the entire SIGCSE community to improve participation in the Symposium.

3.2 Brett Becker

Position. In addition to efforts encouraging new non-U.S. attendees to the Symposium, renewed efforts should be placed on the experience of those who do attend. Also, factors external to the Symposium should be taken into account. For instance, ITiCSE and ICER are also receiving record numbers of submissions and attendees, and CompEd is now attracting people to a SIGCSE venue specifically held outside North America or Europe. How participation in these venues affects participation or non-participation at the Symposium should be well understood. It is possible that alternative venues are being sought for a number of reasons such as a lack of growth in the number of SIGCSE papers [3].

About. Brett is the SIGCSE Symposium 2020 International Liaison and is Chair the CompEd Steering Committee. He completed his undergraduate study in the U.S. before moving to Ireland where he is currently an Assistant Professor whose primary research area is Computing Education. He teaches the majority of his courses in China, from introductory programming to parallel computing. He also teaches second-level Irish computing teachers.

3.3 Rodrigo Duran

Position. While U.S. Computing Science Education (CS Ed) and SIGCSE can be considered growing and vibrant communities, in Latin America (LA) (and Brazil, in particular) CS Ed communities have not shared the same growth process nor are particularly well integrated. A very small number of LA authors and participants attend SIGCSE events, therefore, missing important opportunities for collaboration. While recent efforts in K-12 education increased the interest in CS Ed in LA, the particularities of LA higher and K-12 education contexts are still under-researched and under-reported. Brazil had more than 143,500 enrollments in CS-related degrees in 2017 [4] and the SIGCSE community could benefit from more diverse data, while LA could be better integrated into SIGCSE efforts to mitigate issues such as retention and gender gaps in CS.

About. Rodrigo is a member of the Symposium 2020 International Committee and member of the Brazilian Computer Society Education Board. He completed his undergraduate study in Brazil, where

he also teaches at the Federal Institute of Mato Grosso do Sul since 2011. He will complete his Ph.D. in 2020.

3.4 Viraj Kumar

Position. About 6.5% of ACM professional members are Indian, and researchers from India are well represented at top international computing conferences in several so-called "core" computing domains. However, India is one of several countries where research in CS education is under-funded and under-appreciated. The false perception that such research has low significance, particularly while evaluating faculty and institutions, is a key reason why Indian researchers are poorly represented at the Symposium. Fortunately, there are opportunities to change this perception, particularly since the importance of computing in the 21st century is now well recognized (e.g., in India's new National Education Policy [2]). Further, the Indian context – a vast number of students spread across thousands institutions – poses unique educational research challenges that will be of interest to the SIGCSE community.

About. Viraj is the Vice-Chair of iSIGCSE (ACM India's SIGCSE), a member of the Symposium International Committee, and the CS Editor for the journal Current Science. He has initiated dialog between ACM India and the regulatory agency for CS education in India (AICTE), and served as a consultant to the committee that drafted India's National Education Policy. He teaches in India and brings an Indian perspective to CS education and research.

3.5 Andrew Luxton-Reilly

Position. We acknowledge that diversity of opinion and perspectives improves the quality of software, yet the biggest SIGCSE conference has the least geographic diversity. There is a huge opportunity to improve the quality of our research and the breadth of impact by pursuing multi-national publications. I believe that it is critically important to identify and promote mechanisms that facilitate multi-national collaborations in both teaching and research.

About. Andrew is the chair of the Australasian chapter of SIGCSE, co-chair of the Australasian Computing Education conference 2019-20, co-program chair of CompEd 2019 & 2021, co-program chair ITiCSE 2020 and is a SIGCSE board member. He teaches in New Zealand and brings an Australasian perspective of teaching and computing education research.

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