ACCESSIBILITY IN HIGH ENERGY PHYSICS: LESSONS FROM THE SNOWMASS PROCESS

Amber Roepe-Gier, M.S.
Accessibility in High Energy Physics: Lessons from the Snowmass Process


1Physics Department, Brookhaven National Laboratory, Upton NY, USA
2ICAS-ICIFI-UNSAM/CONICET, Argentina and Universidade Federal do Rio de Janeiro, Brazil
3, 4, 6CERN, European Organization for Nuclear Research, Geneva, Switzerland
4, 5SLAC National Accelerator Laboratory, Menlo Park CA, USA
5Department of Physics and Astronomy, University of California, Irvine CA USA
6ATLAS Experiment
7Queen’s University, Department of Physics, Engineering Physics & Astronomy, Kingston ON, Canada
8SNOLAB, Creighton Mine #9, 1039 Regional Road 24, Sudbury ON, Canada
92021-2022 AAAS Science & Technology Policy Fellow
10Kavli Institute for Particle Astrophysics and Cosmology, Stanford University, Stanford CA, USA
11Vatican Observatory, Castel Gandolfo, V-00130, Vatican City State
12Center for Experimental Nuclear Physics and Astrophysics, University of Washington
13Santa Cruz Institute for Particle Physics, University of California, Santa Cruz CA, USA
ACCESSIBILITY IN HIGH ENERGY PHYSICS: LESSONS FROM THE SNOWMASS PROCESS

INTRODUCTION

- Accessibility directly affects our community members and their ability to participate in science

- Barrier - ‘anything that prevents or makes substantially more difficult to actively participate in physics activities’

- Scope
  - Experienced and observed barriers of Snowmass members
  - Recommendations for alleviating barriers
  - Discussion of resources and funding necessary for access
EXPERIENCED/OBSERVED BARRIERS

- Two community surveys during Snowmass2021
  - *Accessibility of Snowmass* - June 2020
    - Intended to effect current Snowmass process
    - 152 respondents
  - *Updated Accessibility Survey* - March 2022
    - Build upon first survey and provide data to analyze
    - Incorporated questions about conference formats
    - 173 respondents
EXPERIENCED/OBSERVED BARRIERS

- Two community surveys during Snowmass2021
  - *Accessibility of Snowmass* - June 2020
    - Intended to effect current Snowmass process
    - 152 respondents
  - *Updated Accessibility Survey* - March 2022
    - Build upon first survey and provide data to analyze
    - Incorporated questions about conference formats
    - 173 respondents
EXPERIENCED/OBSERVED BARRIERS

- Analysis of *Updated Accessibility Survey* process:
  - Ran 2-sample statistical analysis between subsets of respondents
    - Small numbers would give biased overall distributions
    - Determines if distributions come from same population
  - Subset analysis:
    - Experience barriers (except exclusively *Time Commitment*) vs doesn’t experience barriers
      [bar - nobar]
    - Experience barriers (except exclusively *Time Commitment*) vs only Time Commitment [bar - time]
    - Only Time Commitment vs doesn’t experience barriers [nobar - time]
  - All conclusions based on standard 95% confidence level
EXPERIENCED/OBSERVED BARRIERS

Have you experienced any accessibility issues that have affected your ability to participate in Snowmass 2021?
173 responses

- I have had no such barriers f... 80 (46.2%)
- Deaf/Hard of Hearing -2 (1.2%)
- Visual Disability/Blind -1 (0.6%)
- Colorblind -2 (1.2%)
- Physical Disability -3 (1.7%)
- Mental Health -15 (8.7%)
- Lack of financial support -18 (10.4%)
- Caretaker Responsibility -21 (12.1%)
- Time Commitment -70 (40.5%)
- having an only in-person pos... -1 (0.6%)
- Auditory processing disorder -1 (0.6%)
- High risk for covid-19 and w... -1 (0.6%)
- Every topical meeting was h... -1 (0.6%)
- none. That ought to be an o... -1 (0.6%)
- time zone difference -1 (0.6%)
## EXPERIENCED/OBSERVED BARRIERS

**Have you experienced any accessibility issues that have affected your ability to participate in Snowmass 2021?**

173 responses

<table>
<thead>
<tr>
<th>Barrier</th>
<th>No barrier</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deaf/Hard of Hearing</td>
<td>80</td>
<td>46.2%</td>
<td></td>
</tr>
<tr>
<td>Visual Disability/Blind</td>
<td>1 (0.6%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colorblind</td>
<td>2 (1.2%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Disability</td>
<td>3 (1.7%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mental Health</td>
<td>15 (8.7%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of financial support</td>
<td>18 (10.4%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caretaker Responsibility</td>
<td>21 (12.1%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time Commitment having an only in-person pos...</td>
<td>1 (0.6%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auditory processing disorder</td>
<td>1 (0.6%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High risk for covid-19 and w...</td>
<td>1 (0.6%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Every topical meeting was h...</td>
<td>1 (0.6%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>none. That ought to be an o...</td>
<td>1 (0.6%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>time zone difference</td>
<td>1 (0.6%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

80 (46.2%) respondents indicated they had no barriers to participation.
EXPERIENCED/OBSERVED BARRIERS

Not addressing accessibility actively bars community members from participating.

Response Markers
1: < 20%
2: 20-40%
3: 40-60%
4: 60-80%
5: > 80%
EXPERIENCED/OBSERVED BARRIERS

Rating aspects of virtual conferences:

- Ability to Attend
- Cost
- Content
- Ability to Contribute
- Energy requirement
- Socializing/Networking

Response Markers
1: Awful
2: Poor
3: Neutral
4: Good
5: Amazing

\[ p_{\text{bar - nobar}} = 0.114 \quad p_{\text{bar - time}} = 0.215 \quad p_{\text{nobar - time}} = 0.003 \]
EXPERIENCED/OBSERVED BARRIERS

Rating aspects of virtual conferences:
- Ability to Attend
- Cost
- Content
- Ability to Contribute
- Energy requirement
- Socializing/Networking

Response Markers
1: Awful
2: Poor
3: Neutral
4: Good
5: Amazing

Accessibility in High Energy Physics: Lessons from the Snowmass Process

Response to Contribute

\[ p_{\text{bar} - \text{nobar}}: 0.02 \quad p_{\text{bar} - \text{time}}: 0.733 \quad p_{\text{nobar} - \text{time}}: 0.011 \]
RECOMMENDATIONS FOR ALLEVIATING BARRIERS

- Whitepaper provides detailed recommendations for a number of barriers
- Recommendations based on community members’ lived experiences and professional resources (US ATLAS Annual Meeting Checklist)
- Conference organizers should refer to recommendations to sufficiently budget and plan in advance
- Provided recommendations are neither exhaustive nor absolute
- Always defer to person in need when providing accommodations!
RECOMMENDATIONS FOR ALLEVIATING BARRIERS

- Recommendation highlights:
  
  - Financial - provide travel grants and sliding-scale conference registration fees for those in need (particularly useful for EC members)
  
  - Caretaking Responsibilities - provide childcare support or accompanying caregiver travel (disproportionately affects EC with young children)
  
  - Mental Health - quiet rooms, cutting unnecessary meetings, provide a welcoming intellectual space, abide by a Code of Conduct
Recommendation highlights:

- **Physical** - seating at all breaks and social events, no construction around buildings, hold events in ADA compliant buildings, designate conference contact

- **Auditory** - provide live captioning for events, generate transcripts for recorded meetings (includes case studies and cost analysis for recent HEP events)

- **Visual** - require presentations have colorblind-friendly palettes, translate LaTeX for use with screen readers, ensure websites are screen reader-friendly
RESOURCES AND FUNDING FOR ACCESS

- Authors argue that conference/workshop organizers responsible to ask and provide support

- Americans with Disabilities Act (ADA) - entities that are considered “public accommodations” must provide reasonable accommodations for individual with disabilities

- Public accommodations - facilities, both public and private, that are used by the public
IF YOUR ORGANIZATION IS OPEN TO THE PUBLIC, EVEN IF YOU HAVE "QUALIFICATIONS" FOR MEMBERSHIP," THEN IT IS LIKELY THAT YES YOUR ORGANIZATION IS A PUBLIC ACCOMMODATION
RESOURCES AND FUNDING FOR ACCESS

- Who should provide funding for accommodations? Source of contention and distress

  - “any program or activity receiving federal financial assistance or under any program or activity conducted by any Executive agency or by the USPS”  
    Sec. 504 Rehabilitation Act of 1973

- NSF and DOE should clarify roll in accordance with ADA and the Rehabilitation Act of 1973

  - Some funding avenues exist

  - Facilitation Awards for Scientists and Engineers with Disabilities (FASED)
RESOURCES AND FUNDING FOR ACCESS

- We provide a list of Bare Minimum Conference Best Practices for community use
  - Budget for Accommodations
  - Plan Ahead
  - Have a Single Point of Contact
  - Educate Yourself About Etiquette
  - Solicit and Respect the Input of the People who Need Accommodations