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Background

- From the 1948 Universal Declaration of Human Rights to current diversity statements, science entities in the U.S. and globally promote and enhance diversity and equity.
- For example, EGU, AGU, and Europlanet aim to ‘improve equality of opportunity and diversity’, ‘foster an inclusive environment where science and scientific careers can flourish’, and ‘build a diverse inclusive community,’ respectively (*Figure 1*).
- One of these areas is in scientific conferences, not only in the participation in the conference but also engagement and representation at every level.

Figure 1: Diversity Statements

EGU: ‘to promote and support equality, diversity and inclusion of opportunities in the Earth, planetary and space sciences...’

AGU statement AGU Responsibilities and Rights of Scientists Position Statement Inclusion

- Foster a diverse workforce and inclusive environment that allows science and scientific careers to flourish.
- Ensure the proper citation and acknowledgement of the work of others.
- Use professional courtesy and fairness in working with others.
- Protect the rights of students and colleagues to disagree, pursue their own research, draw their own conclusions, and challenge teachers or mentors without fear of retaliation.

<http://ethics.agu.org/files/2013/03/ScientificIntegrity-and-Professional-Ethics.pdf>

Universal Declaration of Human Rights

Dec 10th, 1948, General Assembly of the United Nations adopted and proclaimed this UDHR to guarantee the rights of all people.

Article 1 Right to Equality “All human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards one another in a spirit of brotherhood.”

Article 2 Freedom from Discrimination “Everyone is entitled to all the rights and freedoms set forth in this Declaration, without distinction of any kind, such as race, color, sex, language, religion, political or other opinion, national or social origin, property, birth or other status.”

Europlanet Consortium

“committed to building a diverse, inclusive planetary science community in Europe and to ensuring that individuals within that community **experience equal opportunity, regardless of gender, disability, ethnic origin, religion or belief, sexual orientation, marital status, age, nationality or socioeconomic background.**”

<http://www.europlanet-2020-ri.eu/>

https://www.epsc2017.eu/diversity_and_widening_participation.html

EGU Working Group *in progress*

<https://www.egu.eu/outreach/diversity/>

EFFORTI Evaluation Framework

<https://www.efforti.eu/publications/toolbox-reports>

Observations and Interventions

- **Goal:** Increase equitable participation in scientific conferences, engagement, and representation at every level.
 - Observations were made and strategies employed while hosting (together with colleagues) four AGU Chapman conferences between 2011-2016.
 - We focused on increasing inclusion:
 - conference #1 was exploratory
 - conference #2 observational
 - conference #3 was not intervened
 - conference #4 intentional efforts were made at each step, e.g. increased representation of women at 20%, support diverse country and socioeconomic participation, etc.
 - We strived to intentionally increase inclusion at every level:
 - Organizers, SOC, Invited Speakers, Participants
 - All four conferences aimed to promote interdisciplinary scientific discussions among solar and heliospheric scientists, and magnetospheric and ionospheric scientists for Earth and other planets with icebreaker networking activities and cultural programs from four different global regions:
 - (1) Alaska
 - (2) Iceland
 - (3) South Korea
 - (4) Croatia
- Each conference posed new challenges.

Figure 2: Conference Engagement: Exploratory, Observation, Non-intervened, Intervention

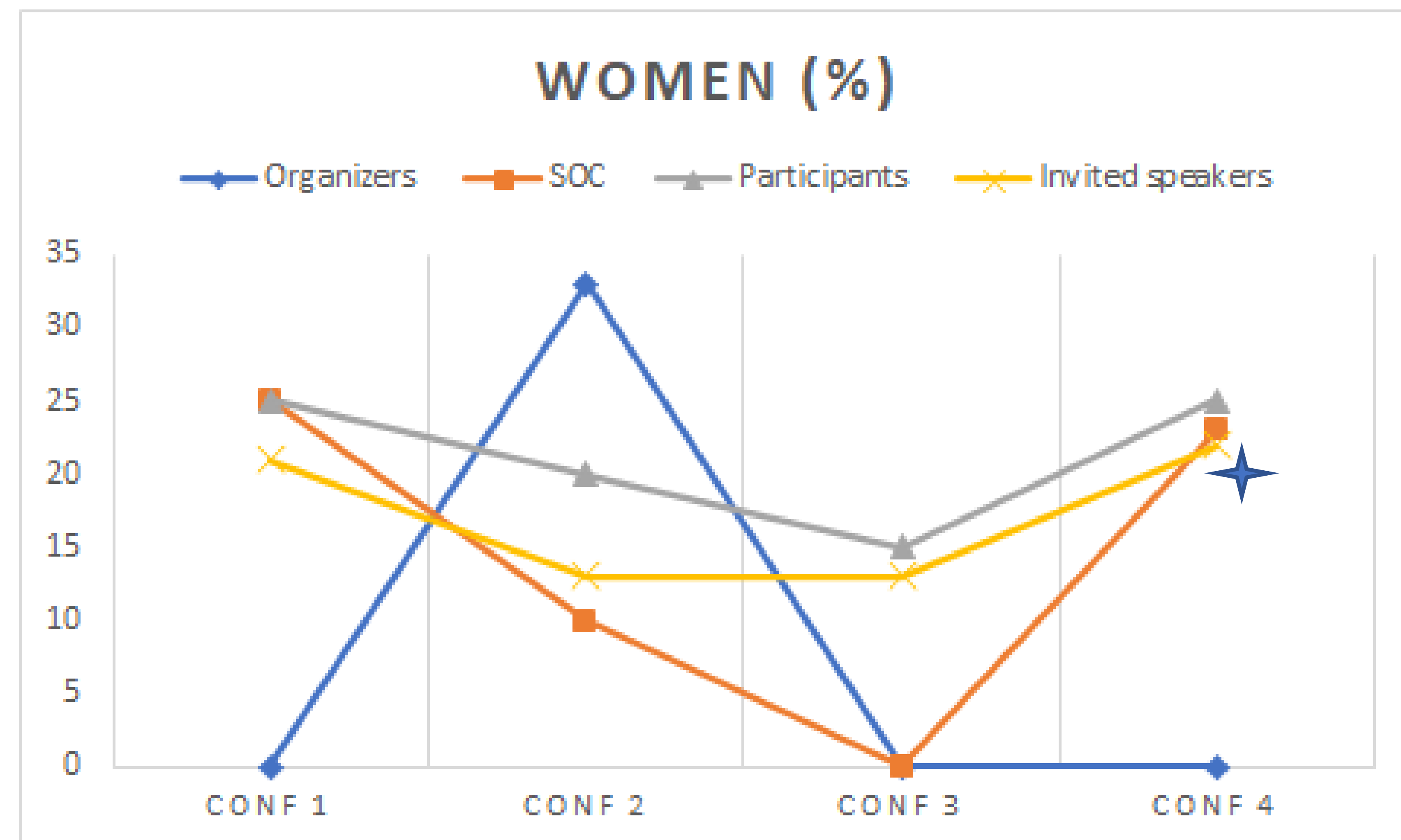
Organizers were conveners in charge of all aspects of the conference but with additional local organizing committee (LOC) support (not counted).

Scientific Organizing Committee (SOC) assisted with the scientific contributions, identified, invited and selected speakers (may be chairs of the sessions). Session chairs conducted the session.

**The asterisk indicates that even at the conference organizer level with no formal female organizer, an influencer (female in this case) can impact.*

Invited speakers were selected by the SOC and Organizers.

Policies at the AGU Chapman levels can play an additional role in influencing. Local organizing committee (LOC) were those in charge of local logistics. Numerous presentations and authorship by women in a subsequent monograph for each conference resulted (not counted). We acknowledge inherent uncertainty of names and gender identity.



Conference #1

2011
US/Alaska
Exploratory
n=127
Organizers: 0/2
SOC: 2/8
Invited
Speaker: 6/29

Conference #2

2013
Europe/Iceland
Observational
n=79
Organizers: 1/3
SOC: 1/10 (was
2/10 but lost)
Invited
Speaker: 3/24

Conference #3

2014
S. Korea/Jeju
Non-intervened
n=117
Organizers: 0/3
SOC: 0/13
Invited
Speaker: 6/45

Conference #4

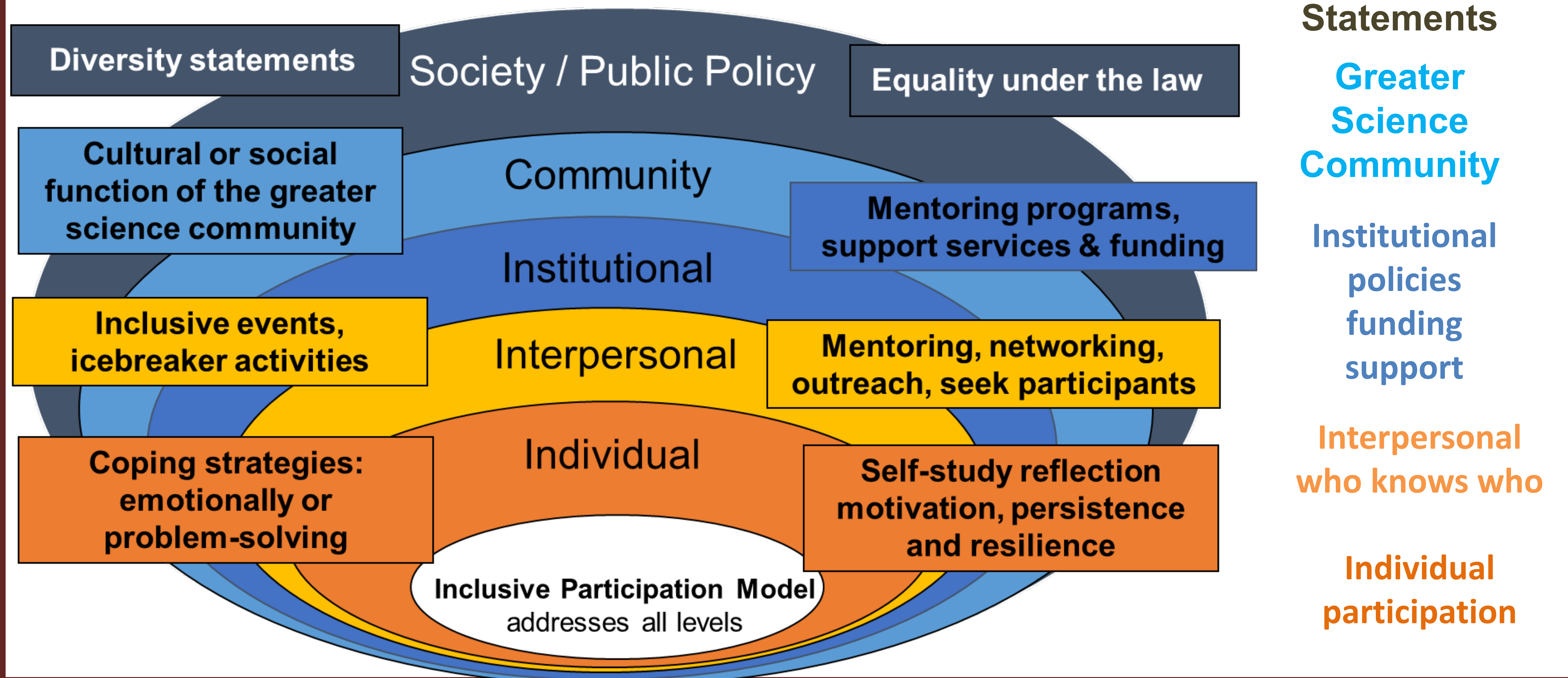
2016
Europe/Croatia
Interventions
n=97
Organizers: 0/3
SOC: 3/13
Invited
Speaker: 8/36

Framework

- Within the Social Ecological Model Framework (**Figure 3**), individual and interpersonal inner-level determinants were our primary target leading us to seek broader viewpoints through an internationally distributed survey.
- Early survey results about what constitutes an inclusive conference help develop strategies to promote advocacy for policy changes and for additional measures that could be applied at conference initiation..
- This would target the outer level determinants at the policy level.

Figure 3: Social Ecological Model (SEM Framework)

Individual and interpersonal inner-level determinants were our primary target & outer-level determinants (institutional, community) of the conference structure were secondary. Constructs involve environmental, behavioral, & social support impacts..



For the purpose of this survey (and in accordance with AGU Diversity and Inclusion statements), we are defining 'inclusion and inclusive' to mean open and supportive for all genders, sexual identities, ethnicities, religious and diverse backgrounds, mental/physical disabilities, and other identities in order to broaden and support diversity in science, to provide equitable access to AGU membership and to all AGU programs, resources, honors, and leadership positions, regardless of personal identity and background.

Q1 of the survey:

This definition matches my understanding. 97.7% of survey respondents agreed

Sampling Methods with Internationally Distributed Survey

- Obtained representation from different groups affiliated globally with AGU and AGU Chapman:
- Distributed IRB-approved anonymous Qualtrics survey on AGU Website (*Education* section, *Societal Impacts and Policy* section, and the general *AGU Member Community*) in series of weekly distributions
 - Followed by emails distributed to former AGU Chapman participants via assistance by AGU Chapman
 - Shared survey link to Cluster Workshop and EGU participants through poster sessions
 - Final survey distribution in progress

Responses included: representation from multiple gender identities, a range of ages, career stages, a range of AGU Chapman participants spanning multiple years, from different origin backgrounds but without specific demographics of ethnicity

Based on our observations from hosting four conferences, respondents quantified their perceived importance list of practices needed to provide an inclusive conference. Top ranking topics were coded. 1) Diversity of invited speakers (gender and otherwise), 2) Diversity on conference organizing leadership levels (gender and otherwise), 3) Attention to dietary needs and accommodation (nuts, vegan, gluten-free, kosher, halal, or other), 4) Additional accommodations for disability (vision, hearing, service animals).

Table 1: Demographic Sample Representation

| | |
|--|-----------------------|
| Total Participants | n=130 |
| Male (%) | 43.1 |
| Female (%) | 48.5 |
| Non-binary/transgendered/other (%) | 3.1 |
| Prefer not to respond (%) | 5.4 |
| Respondents represented origin backgrounds or major growth stages and identity or currently working from >31 countries | 66.4% currently in US |
| -Have attended AGU Chapmans included responses ranging from 4-18 attendees per year from 2011-2019 and 17 attendees from previous AGU Chapman conferences before 2011. Several attended more than one AGU Chapman. | 60% of our sample |
| Did not agree with our definition of inclusion | 2.3% |
| Somewhat agreed or strongly agreed... | |
| -Inclusion matters to them | 93% |
| -Survey raised awareness of inclusion | 35% |
| -Were aware of efforts by organizers to be inclusive at the conference level | 85% |
| -Of those who attended at least 1 AGU Chapman: felt inclusive efforts were made by organizers | 70% |
| -Of those who attended at least 1 AGU Chapman: felt inclusive | 70% |
| -Have been asked to consider or rethink who could be invited to a scientific event or collaboration to promote more inclusion | 45% |
| -Have read or heard insensitive comments at conferences that found offensive | 46% |
| -Have to work harder than my colleagues to be perceived as a legitimate professional | 52% |
| Other questions will be further examined per our sample distribution | |
| - I feel like I fit in with other people at the conference. | |
| - At conferences, my work is respected. | |
| -I am held to the same standard as others for invitation to speak at a conference. | |
| - _____at conferences must work harder than _____ to convince colleagues of competence. | |
| (Women, LGBTQ, Racial/ethnic minorities) | |

Conclusions and Future Directions

https://umn.qualtrics.com/jfe/form/SV_5coPS6d5qZLNR0V

(click here if you wish to add)

- Conference preparation must anticipate multidimensional challenges at initiation.
- Proactive, intentional, concerted efforts and flexibility are needed to promote inclusion.
- Underrepresented may try to participate, but if overcommitted may decline to engage, so additional equity measures are needed.
- Our sample distribution is representative. However, there are some limitations in sampling bias if the response rate for women is slightly higher than general AGU membership, and if only those interested in inclusion respond.
- Future plans: we continue to seek *INCLUSIVE* strategies to promote advocacy for policy changes for AGU and AGU Chapman conferences.

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