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Gender balance and inclusivity lie in the organizers' hands: insights from organizing the 7th International Induced Polarization Workshop

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SUMMARY

Our viewpoint highlights the challenges faced by women in the Induced Polarization (IP) community (and elsewhere), particularly the persistent gender imbalance in scientific workshops. This underrepresentation in leadership roles, presentations and discussions reflects broader systemic biases in academia. By sharing the experience of the 7th IP workshop, where the organizing team made deliberate efforts to prioritize gender and diversity in organizing committees, recruitment and session formats, we demonstrate how intentional actions can create a more inclusive, gender-balanced environment. This approach is crucial not only for the IP community but for all research communities. Emphasizing diversity and inclusion fosters a welcoming atmosphere that encourages participation from all individuals, regardless their background. In turn, this enriches the research process by incorporating diverse perspectives, driving innovation and improving scientific outcomes. We aim to inspire other academic communities to actively promote diversity and inclusivity, recognizing that such efforts not only benefit underrepresented groups but elevate the success and relevance of science as a whole.

CURRENT CHALLENGES IN THE IP COMMUNITY

Since 2009, the international Induced Polarization (IP) community has gathered biennially for IP workshops that serve as a key platform to share knowledge, exchange ideas and foster collaboration, bringing together both established and emerging researchers and companies. As it is common in STEM fields (European Commission 2025), the representation of women in the field of IP is not balanced but it was striking that at the 6th IP Workshop in 2022, this gender imbalance reached a concerning high.

The underrepresentation of women at this workshop with approximately 20 per cent of attendees, was even more prominent in their contributions to oral presentation (3 out of 19), keynotes (0) and chairing sessions (0). This statistic aligns with the overall scarcity of women in technical scientific fields, particularly in our geophysical field (Capello *et al.* 2015, AGU 2021) and more generally at universities (Rosa & Clavero 2021) and at scientific conferences (Shishkova *et al.* 2017; Salem *et al.* 2021; Rezaee *et al.* 2022). A

large range of studies highlight biases against women in academia, particularly in areas such as recruitment, authorship and funding (Kamerlin & Wittung-Stafshede 2020, Moss-Racusin *et al.* 2012; Johnson & Kirk 2020; Ross *et al.* 2022). The pervasive sense of not belonging (being ignored, not invited etc.) is in fact a key reason why many women choose to leave academia (Husu 2001). On the other hand, promoting visibility for women in traditionally male-dominated fields benefits everyone involved (Freeman & Huang 2014; Alshebli *et al.* 2018). Increased diversity is also linked to greater scientific success (Nielsen *et al.* 2017; Hofstra *et al.* 2020).

Therefore, we will present how the 2024 workshop was reorganized with a deliberate focus on fostering an inclusive, gender-balanced and welcoming atmosphere for all participants.

IMPLEMENTATION BEFORE, DURING AND AFTER THE WORKSHOP

At the end of the 6th IP workshop in 2022 the decision was taken that Lund University would host the next IP workshop. The goal of the organizing committee (the first two authors were part of it) was

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to prioritize gender and age balance and to create an inclusive environment that encourages discussions from different perspectives. We wanted the conference to be beneficial and equally engaging for everyone. To achieve this, we consciously decided to spotlight women, believing that a balanced representation would benefit the entire community.

We started considering different aspects already early on in the planning process:

- One of our first steps was to establish the organizing committee and **announce the conference dates early**. This is particularly important for everyone with care duties—often the women—to have time for planning childcare duties etc.
- The **local organizing committee** (LOC) was nearly balanced—6 women and 7 men—with members between 30 to over 60 yr and an international background. It also included students at various academic levels, as well as administrative staff and technical personnel.
- We carefully reviewed the **advertising** materials (photos on website) and **visuals** (photos shown during the conferences) used during the workshop, ensuring they reflected and balanced gender, age and nationality.
- Next, the recruitment of the international **scientific committee** resulted in 7 women and 11 men from 11 nationalities, with a general emphasis on younger researchers (6 people (4 female/2 male) < 35 yr; 10 people (3 female/7 male) between 35 and 55 yr; 2 people (0 female/2 male) > 55 yr) to avoid sticking only to the well-known names in the field. Each subgroup of the scientific committee achieved a good balance in both gender and age as well.

During the workshop, we deliberately allocated substantial time to roundtable discussions because they enable a deeper exploration of topics by discussions in smaller groups and bring together participants from various countries and career stages. We strongly believe that the design of the conference sessions and the methods used to foster scientific discussions is key to encourage women but also less experienced attendees to express their questions and ideas more openly.

Since both **session leaders and moderators** were needed for the specific topics, we aimed to recruit at least two volunteers per session, having at least one woman in each group. For the four sessions, we tasked the session leaders with delivering **introductory talks**. In the end, these introductions were shared among three women and four men.

All the verbal **announcements** during the three days of conference, as well as the communication with the different actors (participants, sponsors, scientific committee, students, venue representatives) were handled by women, to increase visibility of women at all organizational levels.

Another crucial aspect was the **social program**, which we designed to be inclusive and attractive to all participants. Past experiences showed that certain activities—particularly spontaneous evening ones—often unintentionally exclude some attendees. Therefore,

- we hired two local female students to lead a **sightseeing tour** that required no prior registration and was free of charge. This attracted the majority of participants.
- For the **conference dinner**, we aimed to make it both varied and enjoyable. We included a speech on local traditions and a concert by the local well-known student orchestra. To encourage participation of female scientists with young children, we provided

free dinner tickets for their partners or caregivers (and children). Two participants made use of this offer.

- Following the dinner, we hosted a **disco** with a DJ who played a mix of songs from the participants' home countries.

The entertainment and disco were highly appreciated and allowed participants to connect on a different level. The social program as a whole was particularly praised for how entertaining, inclusive and thoughtful it was.

One key outcome of the workshop was the opportunity to contribute to a **Special Issue** on 'Advances in Induced Polarization' in the *Geophysical Journal International* (*GJI*). Recognizing that most handling editors and guest editors from previous IP Special Issues were predominantly male, we appointed three female guest editors with diverse expertise in IP to support the review process and the handling *GJI* editors (2 male/1 female).

A critical consideration was the selection of **keynote speakers** and their topics. We chose two keynote speakers, one woman and one man, from different fields. The female speaker presented first, which allowed introducing her in conjunction with the planned 'special session' happening the same day.

SPECIAL SESSION ON INCLUSIVITY

As a result of experiences from the previous workshop, a group of women in the IP community, including most of the authors of this article, formed a 'Women in IP' group. This group has met several times since then, leading to the idea of a 'special session' at the 7th IP workshop. Recognizing that real change requires engaging everyone and in particular men in the conversation and addressing issues within diverse groups rather than solely among women, we organized an event at the workshop where everyone could participate.

We labelled the one-hour session as a 'special session' without further details, rather than calling it a 'women's session' or session on 'inclusion'. This approach encouraged everyone to attend to nearly full participation from all workshop attendees.

After a brief introduction, Maria Saline, a scientist from Chalmers University and leader of the gender initiative 'GENIE'¹ gave a presentation. She shared facts and statistics about gender discrimination in academia and discussed practical initiatives to overcome it. Following her talk, we held an interactive session with the audience using *Mentimeter* and a panel consisting of six women and one man to give word to women and their experiences. We prepared two sets of identical questions—one for women and one for men—to capture gender-specific perspectives in the audience (see appendix).

The panel discussed the audience responses after each of the four questions and added personal experiences. While the responses between men and women were overall similar, the final question—'Imagine you were the opposite sex what would be different in your work?'²—prompted deep reflection. This question achieved the goal of raising awareness and encouraging participants to rethink gender dynamics in their professional lives. This was evident in comments from men, such as 'I would probably not be here,' 'I would be in every single committee,' 'do more childcare' and 'less fieldwork,' while from women, we received feedback like '(I would be more)

¹<https://www.chalmers.se/en/about-chalmers/organisation-and-governance/equality/genie-gender-initiative-for-excellence/>

²This question assumes a binary view of gender. We acknowledge that other gender identities exist, but for the purpose of this question, we focused only on the categories of women and men.

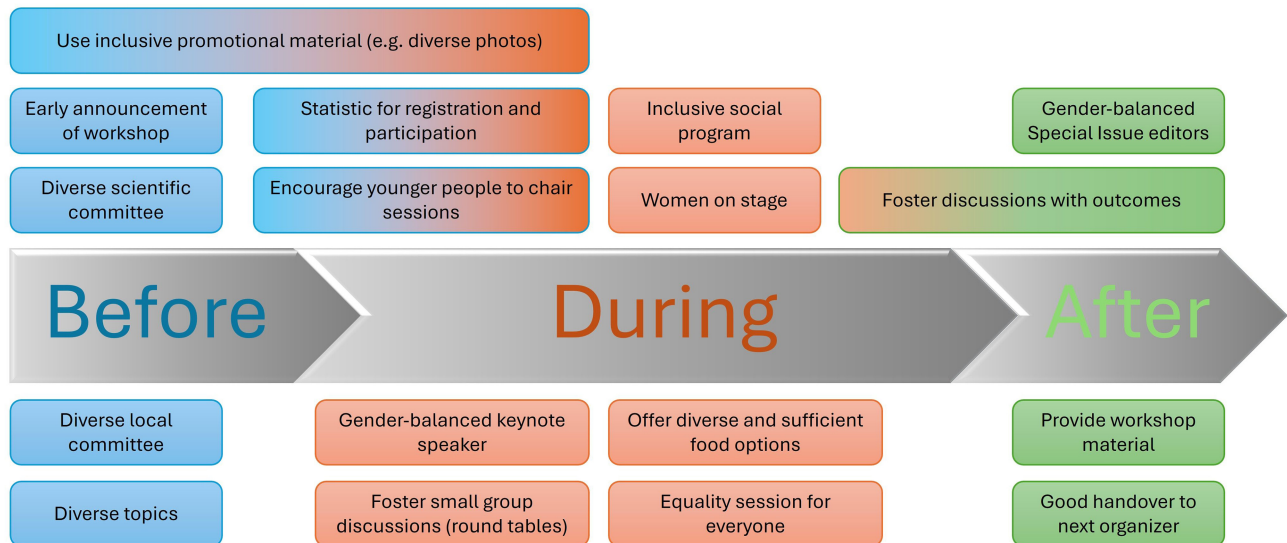


Figure 1. Summary of various actions to enhance inclusivity, achieve gender balance and create a welcoming atmosphere for all conference attendees. Divided into different organizational steps (before, during and after the workshop).

confident,' 'life-changing,' 'be asked to be in more projects' or 'people would hear my ideas and take them more seriously.'

The reception for the session was overwhelmingly positive. Many men approached the panel afterwards, expressing that they had not realized the extent of these issues and asking how they could improve their behaviour. This led to the spontaneous formation of an additional roundtable discussion with balanced gender representation, where participants brainstormed potential actions to create a more inclusive IP community.

As a result, the formerly informal 'Women in IP' group has grown stronger and is now open to everyone, signaling a broader, collective commitment to advancing diversity and inclusivity in our field. At the same time, we will continue to hold occasional women-only events to ensure safe discussion spaces.

DISCUSSION

Organizing a workshop of this scale is a significant challenge, particularly for small teams. It demands substantial time, effort and planning, especially when aiming to increase the visibility of women, as the smaller representation of females in our field makes it more difficult to find participants willing to be involved. To ensure success, we strongly recommend beginning preparations at least a year in advance.

It is also essential to recognize that change does not happen on its own. If specific goals—such as increasing women's visibility—are not actively promoted, they will not be achieved. In Fig. 1, we have outlined our recommended actions for organizing committees to help promote an inclusive atmosphere at future conferences. Based on feedback by the participants and the LOC, the 7th IP workshop was widely regarded as scientifically engaging and complemented by an enjoyable sociocultural programme.

While we could achieve a strong increase in visibility for women during the conference, the proportion of women increased only slightly—from 20 per cent to 23 per cent of a record of 107 attendees. We anticipate that it will be a gradual process to see the positive effect of our actions in future workshops.

The special session provoked ample reactions. As already mentioned in the main section, the overall feedback was positive and

translated into a new round table and many valuable discussions. Needless to say, there was also criticism on the format itself. The main criticism concerned the labelling of the session as 'special', with some participants expressing they would have preferred prior knowledge. However, many others appreciated the surprise aspect, noting it added to the session's impact. Some addressed our distinction between men and women, particularly during the *Mentimeter*, with concerns about the exclusion of non-binary individuals. We acknowledged the limitations of this approach, explaining it was a starting point but recognizing the need for more inclusive measures in future sessions.

We also recognize that in organizing our workshop, we primarily focused on three *visible* aspects of diversity: gender, age and nationality. However, we are fully aware that diversity extends beyond these categories to include *visible* aspects such as physical disabilities and appearance, as well as many *invisible* dimensions like socioeconomic and cultural background, religious beliefs and geographical location. While we began with the three mentioned, we strongly encourage embracing a broader spectrum of diversity in future workshops and conferences.

Furthermore, we realized that by including questions about the gender, career status or origin during registration, a more detailed statistical analysis could be conducted. This could be the basis for long-term statistics that will help to identify effective actions.

Our call to future event organizers is to consciously address these issues from the outset. A key first step is ensuring diversity in terms of gender, age and nationality among the organizing team. By doing so, you can create an event that is more inclusive and enjoyable for everyone.

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DATA AVAILABILITY

No new data were generated or analysed in support of this research.

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Appendix

Questionnaire

Questions asked for the questionnaire for the special session:

- 1) **What makes you feel successful at work?** Multiple choice answers:
 - a. Be a recognized teacher
 - b. Research grants
 - c. My students are successful
 - d. Having fun with my colleagues
 - e. h-index skyrocketing
 - f. Be part of world-renowned research group
 - g. Create a breakthrough in knowledge
 - h. Be recognized as expert
 - i. Be a respected group leader
- 2) **What motivates you to work in your field of research?** Open answer.
- 3) **What is important in your eyes for an attractive work environment?** Open answer.
- 4) **Imagine you would be the other sex: what would be different in your work?** Open answer.