5 dimensions of Equity, Diversity and Inclusion (EDI) in software engineering research

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I plan to be a little provocative …

and ask your opinions at certain points

I will use the term "equity challenged"

Groups of researchers/students who might not have a fair chance due to (systemic) bias and discrimination

- <u>Visible minorities</u> / people of colour
- <u>Women</u>
- People of diverse <u>genders</u> and <u>sexual orientations</u>
- People of differing <u>ability</u> (hearing, sight, physical, age) and their <u>caregivers</u>
- <u>Neurodiverse</u> people (e.g. ASD, Anxiety/Phobias, ADD)
- People of different <u>socioeconomic</u> backgrounds
- People of different <u>cultures / religions</u>
- <u>Indigenous</u> people
- People from <u>countries/regions</u> that are <u>economically or politically challenged</u>

Some key dimensions of EDI

A. In peer review (double-blind or not?)

B. In conference attendance (mandating hybrid)

C. In the products we create
- Considering abilities and needs of all users

D. In studies we conduct
- E.g. studying UX in all groups

E. In recruiting students

I will focus on the first two

These are my opinions primarily

More research in this area is needed

Dimension A: EDI in Peer Review.
Make author blinding recommended.

Double-blind: Currently considered golden in key SE conferences

- Reviews hence theoretically only based on <u>merit</u> of the work
- Ideally reduces chance of <u>subconscious (or overt) bias</u> …
    - *…towards* established/prestigious researchers
    - *…against* equity-challenged researchers

EDI in Peer Review. Make author blinding recommended. (2)

But: unintended consequence of blinding authors:

- Blinding is not always truly possible or 'real' in certain academic topics (including some SE topics)
  - When research is clearly <u>localized</u> to a university, company or geography
  - When a researcher is <u>the only or one of a few researchers</u> in an area
    - E.g. developer/investigator of a language/tool/method
  - Relevant PLOS blog by Hilda Bastian:
    <u>https://absolutelymaybe.plos.org/2017/10/31/the-fractured-logic-of-blinded-peer-review-in-journals/</u>

EDI in Peer Review. Make author blinding recommended. (3)

Unintended consequences of author blinding (cont.)

- Authors need to <u>avoid self-references</u> to previous aspects of own work
  - They may need to repeat material
  - If they don't repeat it, the paper may get rejected
- Reviewers <u>can't check for self-plagiarism</u>
- Reviewers complain that <u>a certain author's work is not considered</u>, *when it is a work of the author!*
- Challenges when <u>expanding/progressing</u>:
  - Preprints/workshops -> Conferences/Journals
  - Conference -> Journal

EDI in Peer Review. Make author blinding recommended. (4)

Unintended consequences of author blinding (cont.)

– Reviewers often learn a lot from what they review and may want to <u>follow the author's work</u>

- Blinding blocks this avenue for exposure of equity-challenged authors

– Authors <u>steer away from certain lines of work or writing papers</u> that are hard to blind for fear of desk rejection

- or *towards* venues that do not do double-blind review

EDI in Peer Review. Make author blinding recommended. (5)

My recommendation for double blinding policy in SE:

– Give authors who may be equity challenged **the choice**!

– In CFPs strongly <u>encourage</u> authors to blind papers, but *don't require* it.

  • Give the reasons for blinding in the CFP

  • Ask authors for metadata stating why they declined to blind for later analysis (not visible to reviewers)

– Open review is also a trend!

  • Allow reviewers (with author's consent) to have their name and/or the core of their review made public when papers are accepted
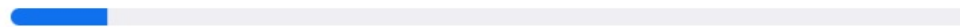
What do you think?

Poll (The host will run it)

1. After hearing what Tim Lethbridge has said, to what extent do you think 'encouraged author blinding' should be used instead of 'required author blinding'? (Single Choice) *

I think that reviewers should always or almost always be able to see the author's names — 10%

I agree that blinding of author's names should be encouraged but not required — 34%
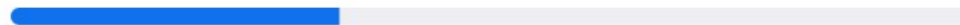
I (still) think that the names of authors should always or almost always be hidden from reviewers — 55%

Dimension B: EDI Through Mandating that Conferences be Hybrid

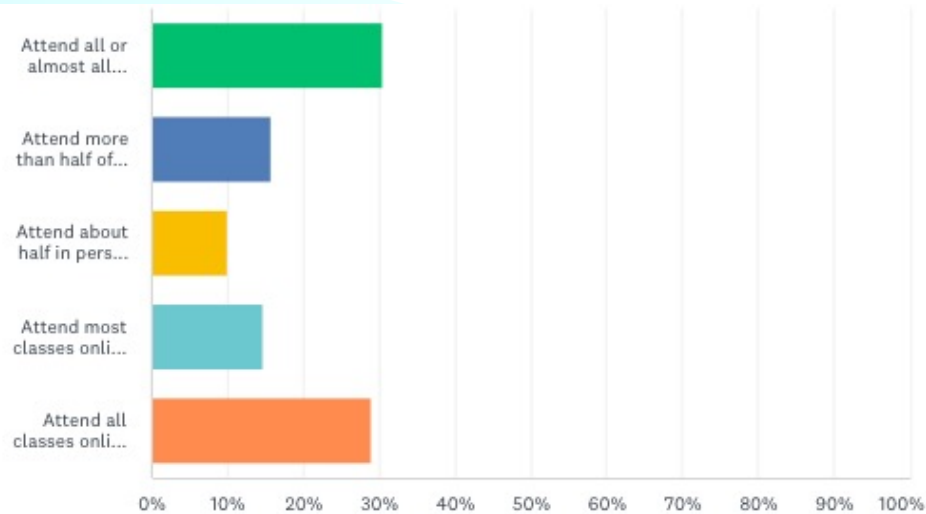**We know that hybrid conferences work!**

- Some hate it (want in-person only)

- Some prefer online interaction

- It can be done easily (fanciness is not needed)

EDI Through Mandating that Conferences be Hybrid (2)

Online vs. in person preferences are polarizing:

ANSWER CHOICES	RESPONSES	
Attend all or almost all bi-modal classes in person / J'assisterais à tous ou presque tous les cours bimodaux en personne	30.41%	225
Attend more than half of the classes in person and the rest online / J'assisterais à plus de la moitié des cours en personne et le reste en ligne	15.81%	117
Attend about half in person and half online / J'assisterais environ à moitié en personne et à moitié en ligne	10.00%	74
Attend most classes online / J'assisterais à la plupart des cours en ligne	14.73%	109
Attend all classes online / J'assisterais à tous les cours en ligne	29.05%	215
TOTAL		740

EDI Through Mandating that Conferences be Hybrid (3)

The <u>climate change</u> argument for mandating conferences be hybrid: https://stay-grounded.org

- We must reduce flying, a key factor in climate change

- It is also an EDI argument since climate change will affect equity-challenged countries and people more

- Excellent papers on this:

  - van Ewijk and Hoekman, 2020, "Emission reduction potentials for academic conference travel": https://onlinelibrary.wiley.com/doi/10.1111/jiec.13079

  - Leochico and Di Gusto, 2021, "Impact of scientific conferences on climate change and how to make them eco-friendly and inclusive: A scoping review": https://www.sciencedirect.com/science/article/pii/S2667278221000390

  - Glausiusz 2021, "Rethinking travel in a post-pandemic world", https://www.nature.com/articles/d41586-020-03649-8

EDI Through Mandating that Conferences be Hybrid (4)

The <u>pandemic</u> argument for mandating conferences be hybrid

- Likelihood of more Covid waves that will affect different countries at different times (EDI)
- Waning immunity
- Residual unvaccinated
- New variants
- Low vaccination rates in some countries (EDI)

EDI Through Mandating that Conferences be Hybrid (5)

The <u>personal needs and availability</u> argument for making conferences hybrid

- Some people find it challenging to travel for **mental health** reasons (EDI)

- People in **teaching-focused universities** may find it harder to find time to travel (EDI)

- Attendance will be higher and more diverse if we do not force in-person attendance

EDI Through Mandating that Conferences be Hybrid (6)

The broader EDI argument for making conferences hybrid

- **Cost**: More people from developing countries or other equity-challenged groups will attend/learn/participate

- **Health limitations**, including pregnancy

- **Family responsibilities**: Society still pushes this more on women

- **Visa issues and political concerns:** Disadvantaged groups less able to leave/enter

EDI Through Mandating that Conferences be Hybrid (7)

I believe in coming years, conference sponsors (IEEE, ACM) will <u>demand</u> hybrid access be standard

- In-person-only conferences will be seen as elitist
- Conference organizers should take the lead NOW

But the pattern of online attendance needs working out:

- A) **Resist**: In-person by default, online by special permission and/or paying similar fees to in-person
- B) **Neutral**: Moderate fees, no justification needed
- C) **Embrace**: If you want to be in person, register by a deadline (so meal numbers can be pinned down), otherwise online by default at low cost.

What do you think?

Poll (The host will run it)

– Poll 2: After hearing what Tim Lethbridge has said, to what extent to you think that conferences should be required to provide an online option for attendance on a permanent basis?

- 17% I think that we should go back to in-person only attendance at major conferences after the pandemic is over

- 7% I am neutral on this

- 76% I think we should permanently allow some form of online attendance (i.e. conferences should be hybrid)