

# Equity, Diversity and Inclusion in Physics

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Master Your Physics 2022

If we are really committed to creating a diverse and inclusive society,  
we must first understand what these concepts mean.

We must also be prepared to reflect on, and have conversations about,  
**things that make us uncomfortable.**

# Trigger and content warnings

We will be discussing topics like harassment, assault and abuse.

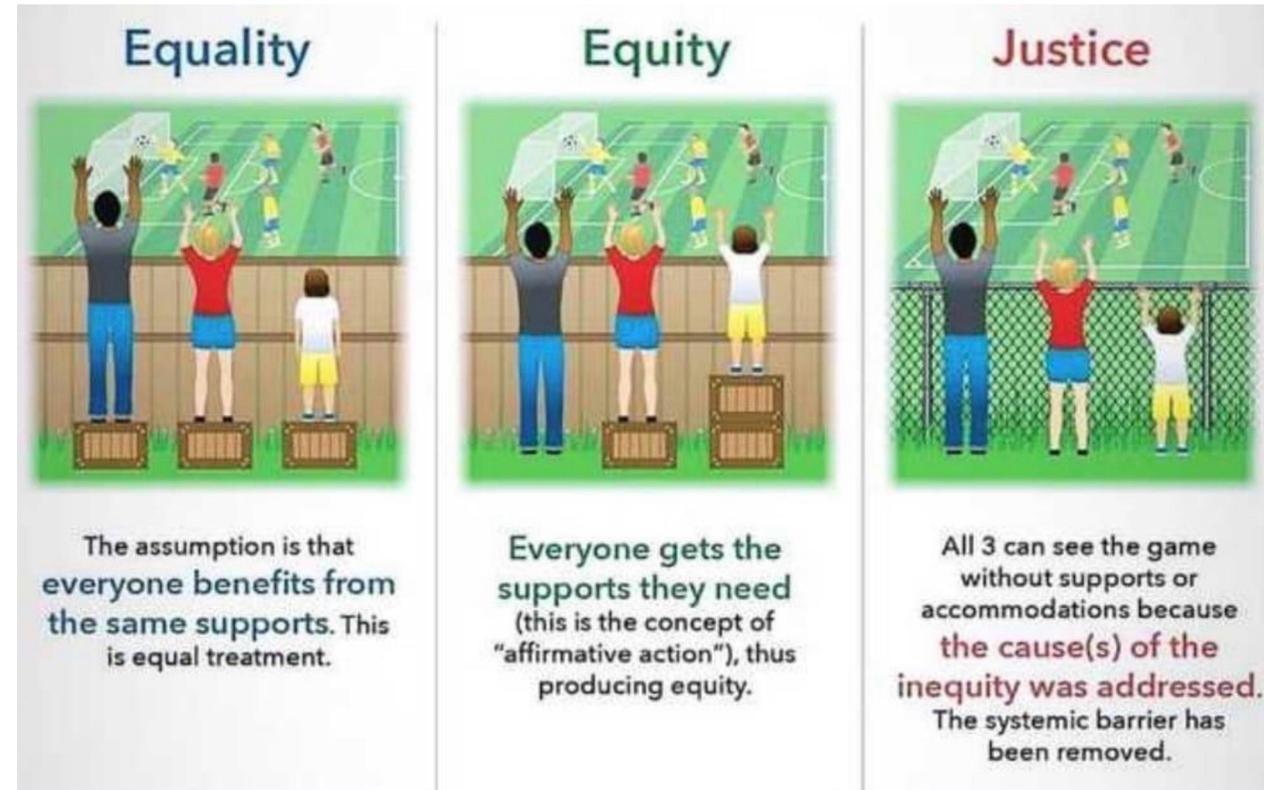
Please be mindful of this throughout the session

# What is Equity, Diversity and Inclusion?

- Commonly accepted definitions:

Diversity: Having people from different backgrounds, cultures, places, abilities, etc.

Inclusion: Making sure everyone feels welcome, valued and supported



From Reddit: posted by RogueEminent

# What is Equity, Diversity and Inclusion?

Or

As applied in science academia

Diversity = recruitment → outreach/ science communication & engagement to get a more diverse audience interested in science

Inclusion = retention → using language, resources, etc. that make people feel engaged, valued and respected

# What is science (and by extension physics)?

Jonathan Marks (via Prof. Chanda Prescod-Weinstein) provides a definition of science that encompasses 3 intertwined aspects



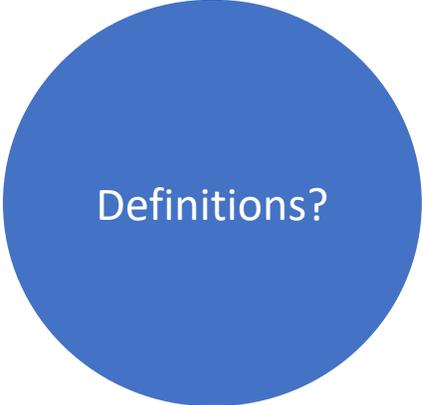
#JusticeforBreonna Prescod-Weinstein 🧑🏻‍🔬🔒  
@IBJIYONGI

A lot of arguments about what science is and does can be boiled down to the fact that "science" means three different things and people tend to conflate them:

1. A series of techniques
2. A community
3. An information organization structure in conversation with power

Another important point to address:  
**Science is, and has always been, political**

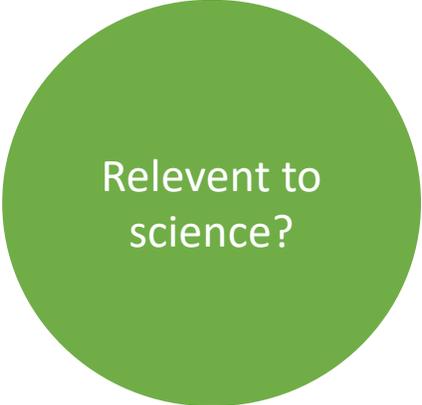
# What are your thoughts on EDI in physics?



Definitions?



Why should  
we care?



Relevant to  
science?

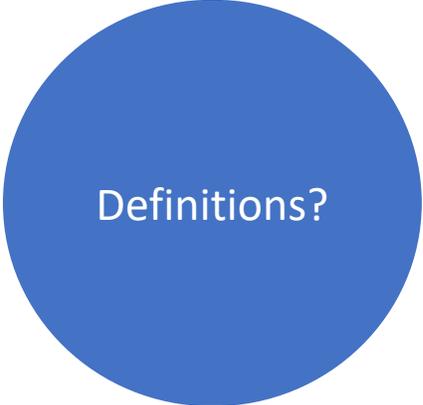
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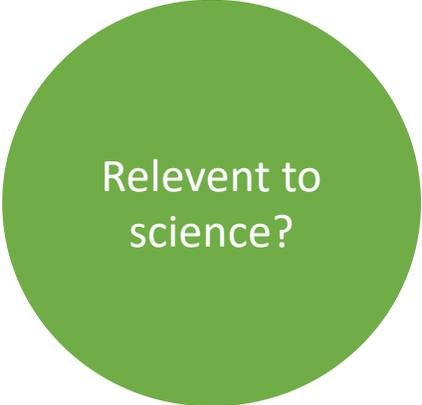
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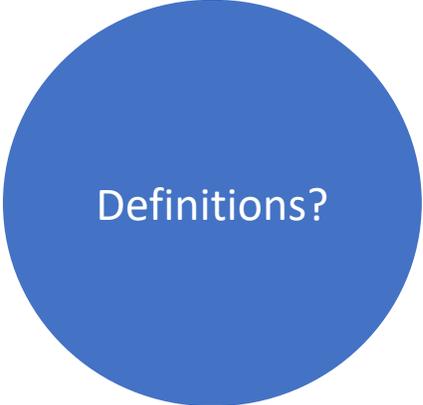


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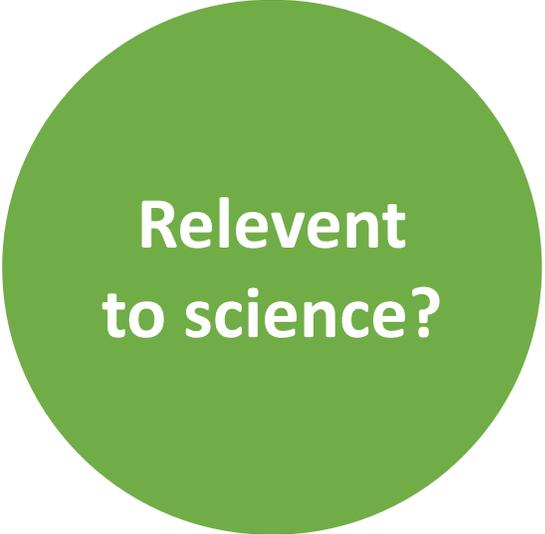
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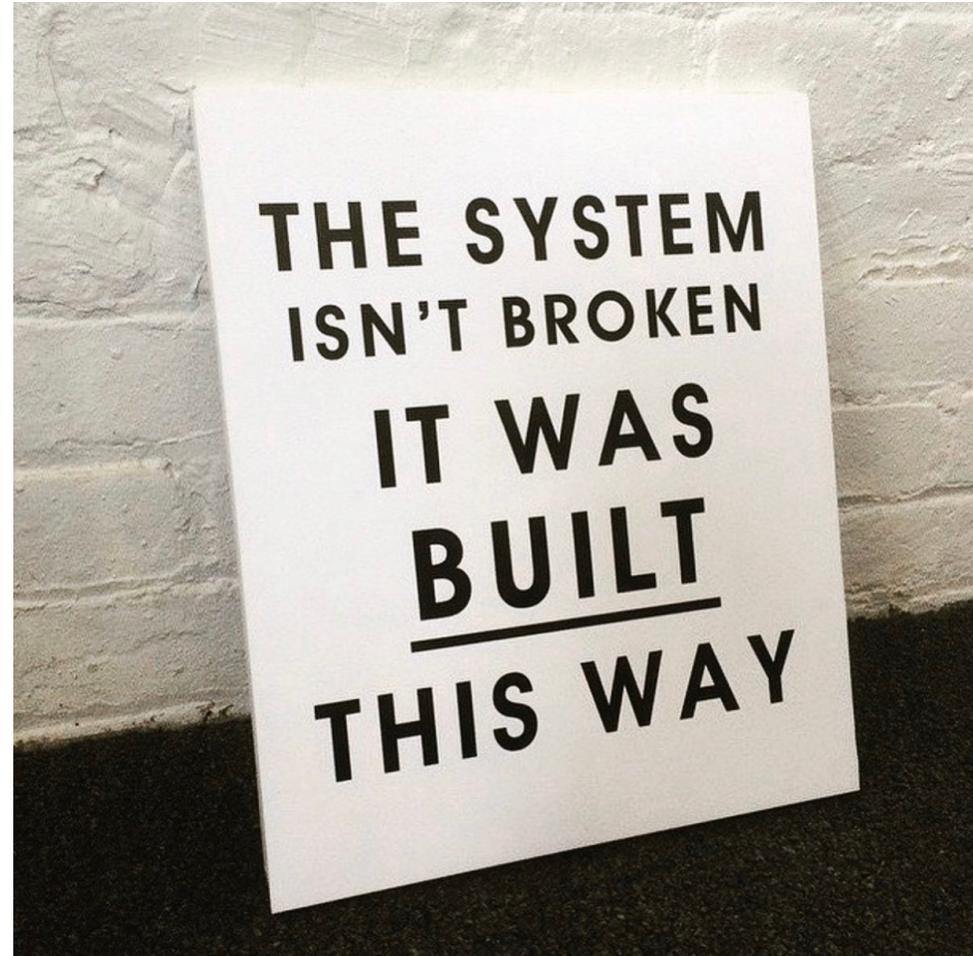
**Relevant  
to science?**

# Academia is still largely based on 17<sup>th</sup> century European social structures

- Scientific Revolution in Europe started in the 17<sup>th</sup> century, with key figures such as Francis Bacon, Tycho Brahe, Rene Descartes, Johannes Kepler, Galileo Galilei and Isaac Newton (M Pilar Gil, 2017)
- Most of these men come from rich, influential families, so they were at leisure to study
- Today's academic system is still set up for people who don't have to worry about money → this affects how we think about science and scicomm

# Academia is still largely based on 17<sup>th</sup> century European social structures

- Academia disadvantages those who, for example:
  - have family/caring responsibilities
  - are religious, disabled, have medical/cultural/personal reasons for not participating in drinking as socialising
  - Science (academia) is seen as a luxury for those from socio-economically disadvantaged backgrounds



The oppressive structures that exist in wider society are also at play in academia (and can carry through to scicomm)

# Science academia is also full of bad actors & bad behaviour

A Royal Astronomical Society survey from 2021 found that:

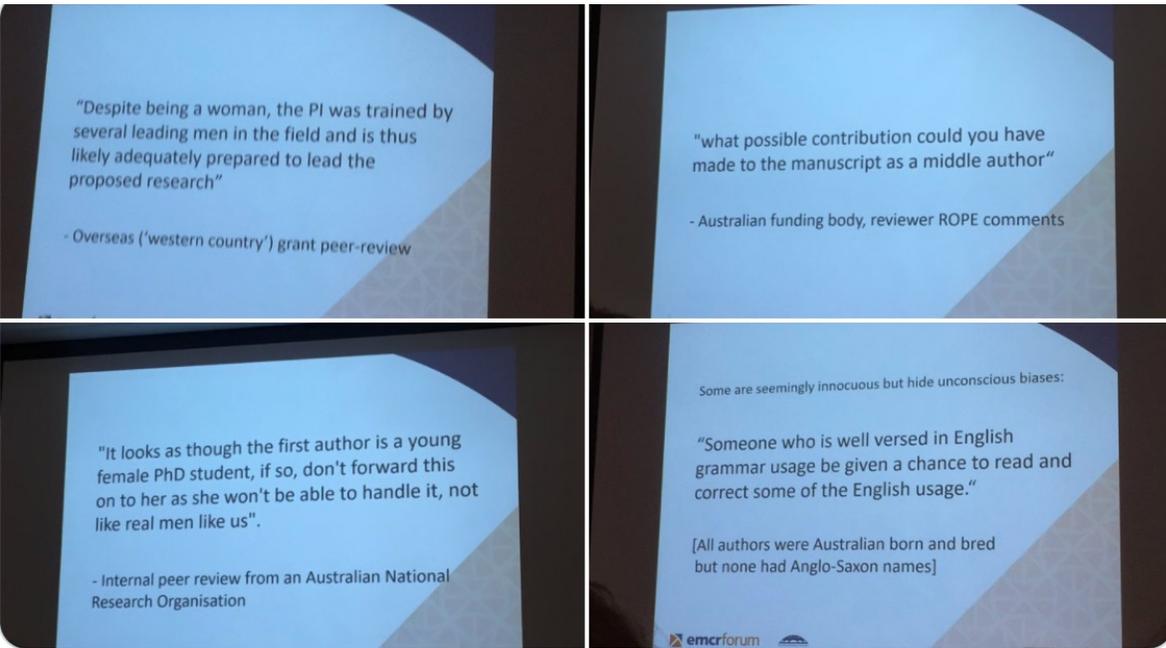
- 44% of 650 respondents had suffered bullying and harassment in the workplace within the preceding 12 months
- And that it disproportionately worse for disabled people, women, non-binary people, LGBTQ+ people and people of colour

# Science academia is also full of bad actors & bad behaviour

An American Institute of Physics Longitudinal Study of Astronomy Graduate Students (2007-16) found that:

- 33% of the respondents reported experiencing harassment and discrimination at school or work.
  - Biased assumptions that were communicated to the respondents regarding their status, career, and personal life
  - Verbal put-downs in the form of jokes, criticisms, and undermining comments
  - Demographic-based inequitable treatment that limited their social support and professional development
  - Unwanted sexual attention, ranging from inappropriate comments to more serious behaviours such as threats, stalking, and assault

# Science academia is also full of bad actors & bad behaviour



The screenshot shows the top portion of a news article on The Independent website. The page includes the site logo, navigation buttons for 'Contribute', 'Subscribe', and 'LOGIN', and a search icon. The article title is "UK universities spent £87m on 'gagging orders' to keep bullying and sexual misconduct claims quiet". Below the title, it states "Sum paid for around 4,000 settlements during last two years, report says". The author is identified as "Nina Massey" and the article was published on "Saturday 04 May 2019 20:42". Social media sharing icons for a bookmark, Facebook, and Twitter are visible at the bottom right.

Biased/unprofessional/harmful behaviour disproportionately affects underrepresented groups in STEM (Silbiger & Stubler, 2019)

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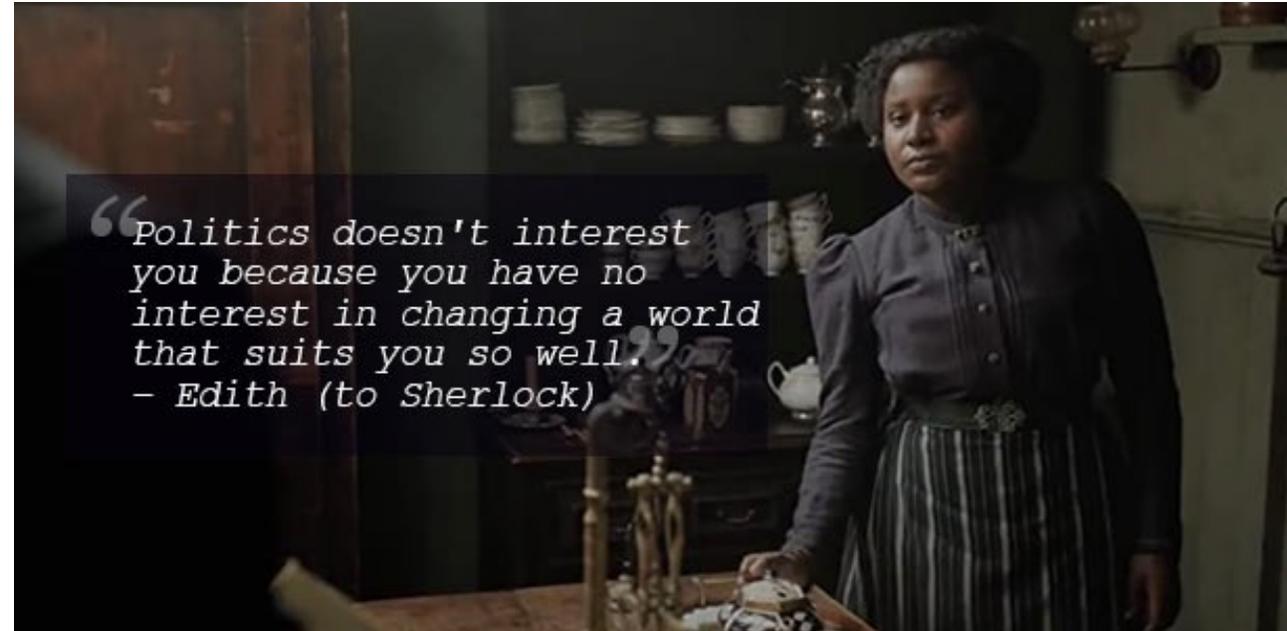
Ways forward and some points to consider

# Some things to consider

## Ask yourself:

Why you are engaging in EDI work? Be honest.

- Is it simply a box ticking exercise/a way to get funding or an award?
- Or do you really care about making science academia a place where people from all backgrounds and walks of life can have access, contribute and thrive?



# Some things to consider

- Academics from underrepresented groups are asked to do more labour for EDI than others, called cultural taxation (and possibly tokenism!) (Padilla, 1994; see also Gewin, 2020)

## **Compensate for and acknowledge this labour!**

- Engage in evidence-based action to ensure that the field of astronomy is one that people from all walks of life can access, contribute to & thrive in
  - > **Don't just do stuff that makes you feel and/or look good**
- Start to think of EDI the way we think of Health & Safety - **an integral part of work place culture and processes without which we cannot properly conduct our business and research.**

# Ways forward

From the report on Harassment at the University of Groningen by the Young Academy Group (see also refs therein)

1) Implementation of zero-tolerance policies and effective complaint procedures

- **Including reworking funding structures and procedures & hiring practices**

2) External monitors of workplace safety, such as funding bodies auditing whether EDI funding is being used correctly

3) Make (some) awareness and EDI training mandatory, e.g. bystander intervention training

# References

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  - Coker et al., *J Fam Violence*, 2019, 34(3): 153–164
  - Silbiger & Stubler, *Journal of Life and Environmental Sciences*, 2019
  - Fitzgerald et al., *BMC Psychology*, 2019; 7: 29
  - Padilla, A. M. *Educ. Res.*, 1994, 23, 24–27
  - Gewin, 2020, *Nature*
  - UN Working Group of Experts on People of African Descent, April 2021
  - *BMJ* 2021;373:n911
  - [UK Universities spend millions to silence bad behaviour](#)
  - [RAS harassment and bullying survey](#) results
  - [Harassment at the University of Groningen](#)
  - [Harassment and discrimination are still rife within universities](#)
- [AIP Longitudinal Study of Astronomy Graduate Students \(2007-16\)](#)

# Further reading

- [How To Make a Real Commitment to Diversity](#)
- [Discuss Sexual Harassment—But Consider This First](#)
- [Particles for Justice Resources](#)
- [Be a Better Ally](#)
- [Seven Ways PIs Can Counteract Systemic Bias Right Now](#)
- [More than 70 lab heads removed from NIH grants after harassment findings](#)
- [Diversity makes better science](#)

# Some third party EDI practitioners & support orgs

- [MA Education Consultancy](#)
- [ECHO Centre for Diversity](#)
- [Inclusive Employers](#)
- [1752 Group](#)
- [Parity Movement](#)
- [0.7](#)