

Diversity actions in theory

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Gender in High Energy Theory (GenHET)

- GenHET was established as a permanent working group in 2017 following the conclusion of an EU funded COST network in string theory that included gender actions.
- GenHET's digital presence – website and mailing lists - are hosted by CERN theory.
- Leadership of the working group includes *Alejandra Castro* (Amsterdam); *Mariana Grana* (Paris); *Yolanda Lozano* (Oviedo); *Silvia Penati* (Milano); *Elli Pomoni* (Hamburg); MMT (Southampton) with activities and actions led by many other GenHET members.

<https://genhet.web.cern.ch>

GenHET goals

- (i) Monitor and analyse gender data across high energy theory
- (ii) Provide evidence based advice on good practice
- (iii) Coordinate networking, support and mentoring for early career researchers
- (iv) Advocate for diversity in senior leadership roles, research networks, conference programmes etc
- (v) Collaborate with academic experts researching diversity and inclusion in science

Diversity >> gender

- Many other groups are under-represented in physics: LGBT+; ethnic, religious and racial minorities; carers; lower socio-economic family backgrounds; those with chronic illnesses and disabilities.
- **Intersectionality** of protected characteristics adds to disadvantages.
- **GenHET**: focus on gender, working in collaboration with other groups
- E.g. ***StrINgCLUSION*** network for all early career researchers within the string theory community

Workstreams in GenHET

- 1. Information, education and advice

Repository of EDI data and resources; advise institutes on development of EDI action plans; share good practices across Europe and beyond

- 2. Networking, mentoring and support

Address isolation of women through creation of transnational support community

- 3. Data monitoring and research

Collect and analyse gender data specific to high energy theory, working in collaboration with gender experts

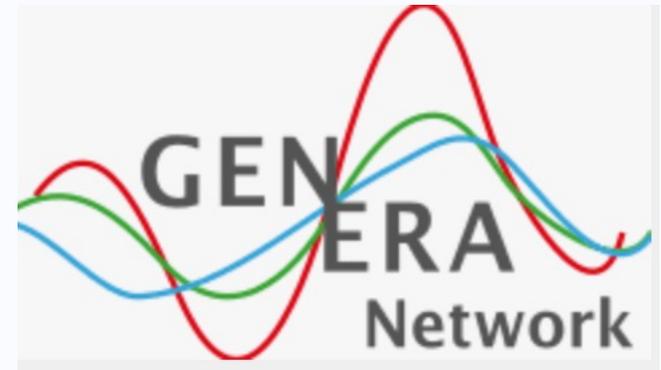
Education and advice

- *Gender action plans*

Baseline data: What fraction of PhD students/postdocs/faculty in hep theory are female? How fast is this changing?

Evidence based practice: Workload models? Mentoring and networking? Representation of women in committees, seminars etc?

Recruitment of women: How to diversify applicant pool for PhDs and staff positions? Good practices ranging from gender neutral language in letters and adverts through to optimal approaches to interviews.

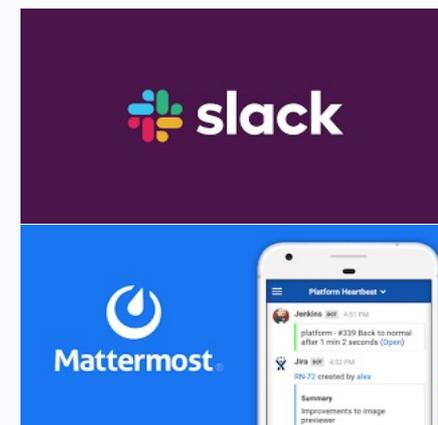


Networking and mentoring

- Mentoring and networking are consistently shown to be effective in retaining and progressing under-represented groups.
- ***Mailing lists and newsletters***: advertising job opportunities; relevant meetings within the research field; grants and fellowships across Europe, particularly tenure track possibilities.
- Additional aim: early career researchers get to know senior researchers virtually & feel comfortable asking for individual guidance and support.
- Particularly important during pandemic, when many postdocs and PhD students were unable to meet senior researchers at in person conferences.

Hybrid networking

- *In person* networking is beginning to resume post Covid – formal and informal activities in conferences.
- Dedicated Slack and Mattermost channels facilitate continuation of networking and supporting post conferences.
- Channels for PhD students/postdocs & for young researchers to ask for support from experienced colleagues.



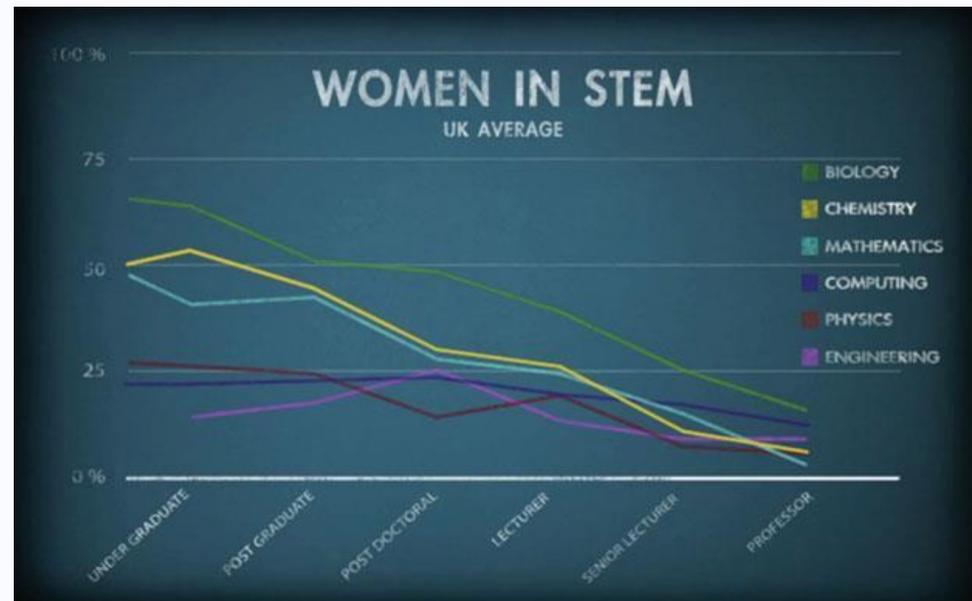
Mentoring

- A formal mentoring scheme has just been launched in collaboration with the strINgCLUSION network.
- Mentoring is particularly aimed at under-represented groups, but all young researchers are welcome.
- Primarily based on structured mentoring approaches (like INFN scheme) but approach can be varied as needed.
- Uptake high from countries where EDI is less developed.

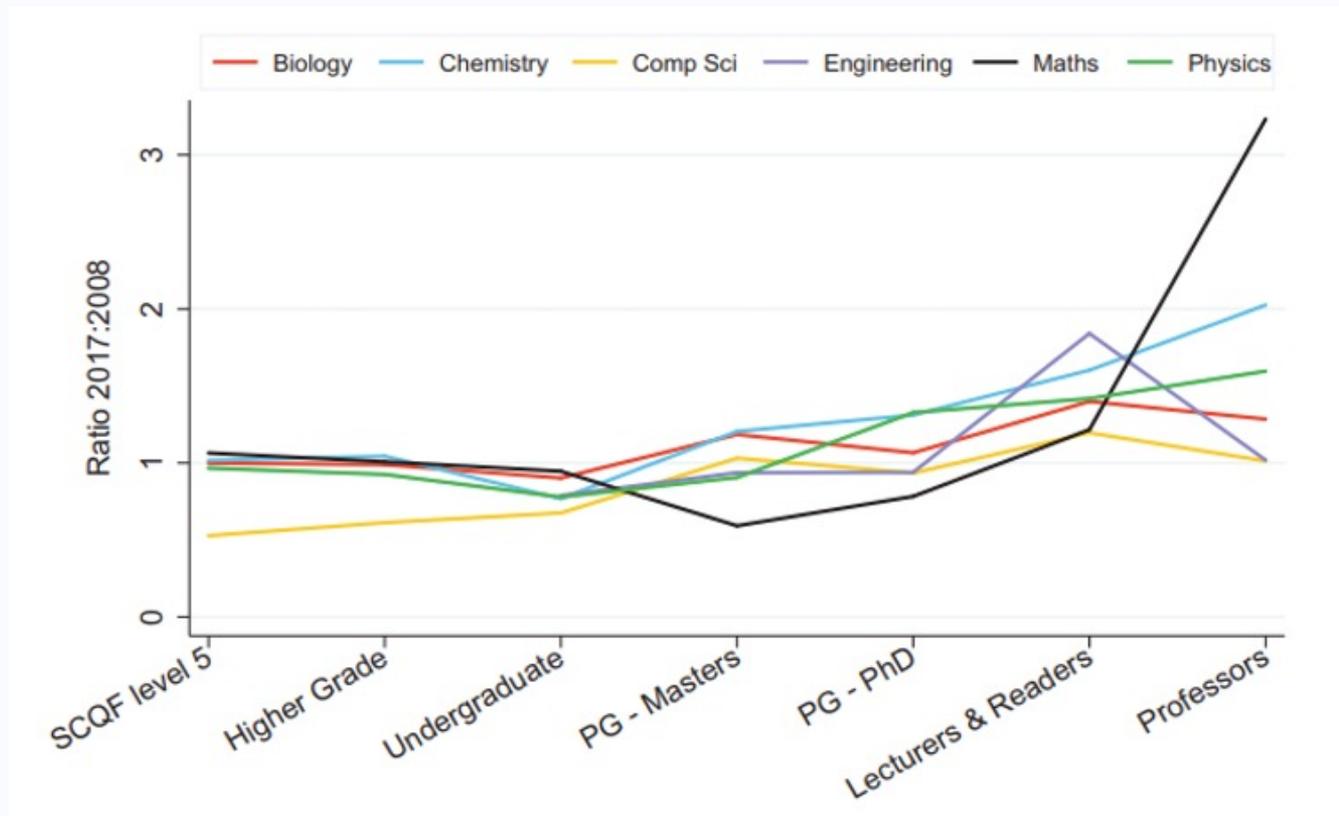


Data and research

- Many researchers state that the gender balance will improve as more of today's female PhD students and researchers progress.
- What is the rate of change? How does high energy theory compare to physics as a whole?



Rate of change: all fields



Data from Scotland

Postdocs in Europe

- Most studies of the demographics within physics are carried out nationally, over all of physics, or within physics departments.
- This obscures wide variations between communities: empirical evidence suggests women are often less represented in theoretical physics.
- The hep-th community has been using a joint European application process for postdocs since the early 2000s – about 400-500 applications per year.
- Application system has always collected demographic information, giving 17+ years of data.....

Key findings

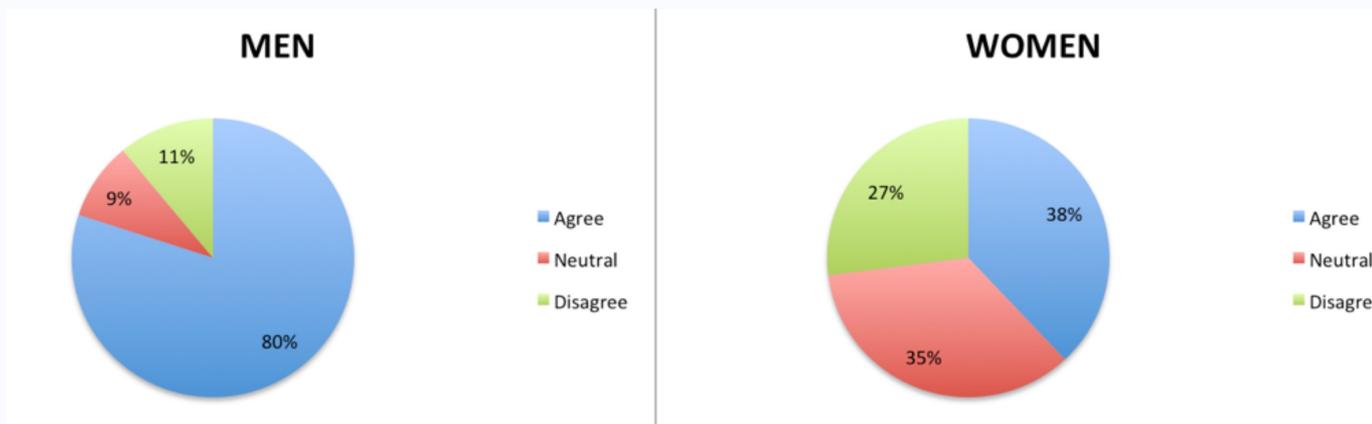
- (1) About **9%** of applicants and postdoc offers are women.
- (2) The rolling three year average is **not changing** (beyond statistical fluctuations).
- It is much harder to estimate the fraction of the PhD community that is female, as the community is spread over many countries and there is no analogous common hiring process.
- However, collated data from national research councils, European network membership etc all suggests representation at **12+%**.

Qualitative research

- *Are women less likely to apply for postdoctoral positions?*
- There is evidence from national research councils (Ireland, Sweden etc) that fellowship application rates from women lie below the fraction of eligible women.
- What are key factors in deciding whether to continue in hep theory research? How does the high competition for posts and international mobility required impact on decision?
- Small scale study by MMT: lack of *confidence* is the most important factor in hep theory women deciding to leave academia...

Ongoing work

- Collection and analysis of demographic data.
- New cultural survey, following survey at conclusion of EU COST network in 2017.
- How have views changed post Covid....?



*2017:
Are there equal
opportunities
in hep theory
regardless of
gender?*

Upcoming activities



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YOUR QUESTIONS