

The importance of equality, diversity and inclusion in physics

Why making physics a welcoming, supportive and fair place for everyone is at the core of the IOP's work.

March 2023

About EDI – equality, diversity and inclusion

The 5 drivers for improving EDI

Moral

It is a matter of simple fairness and social justice that everyone should have the opportunity to thrive in the physics community.

Members' wishes

Many of our members have told us they want to work with us to encourage a more inclusive environment.

Improved performance

Diverse organisations and teams have been shown to outperform those that are not, in innovation, problem solving and business success.

Expanding the talent pool

There is a shortage of people trained in physics-related skills.

Legal

It is illegal to discriminate against individuals or groups based on legally defined 'protected characteristics'.

Definitions

EDI – equality, diversity and inclusion – are three related, but different, concepts.

Equality

A legal or moral framework under which everyone is treated the same.

Diversity

The different elements of us and our backgrounds which make us who we are.

Inclusion

Ensuring individuals from diverse backgrounds and lifestyles are meaningfully included in activities, discussions and decisions.

Types of diversity

- Gender/gender identity
- Abilities/disabilities
- Neurodivergence
- Country of origin
- Location
- Race/ethnicity
- Education and work experience
- Religious background
- Sexual orientation
- Caring responsibilities
- Age
- Socioeconomic background
- Language/accent
- Traditions and observances
- Clothing and hair styles
- Hobbies and interests
- Personal and professional networks.

The evidence base for the benefits*

Scientific research is increasingly undertaken in larger teams and papers authored by more diverse teams are published in higher impact journals and cited more often.¹

A McKinsey study found firms with gender-diverse leadership outperformed the average by 25% while ethnically diverse firms did better by 36%.²

A Harvard Business Review study found innovation revenues 19% higher from organisations with more diverse teams.³

Only 11% of physics innovators say they faced no difficulties recruiting.⁴

A recent study found a likely shortfall in the UK of 40,000 STEM graduates a year.⁵

What we're doing to improve diversity and inclusion in physics

Our commitment to EDI

“We know the value diversity brings to physics. If society is to reap the benefits of this value, we must do more to create a welcoming and inclusive environment for all. The IOP can and must take a leadership role, amplifying diverse voices and experiences which are making such valuable contributions to both our organisation’s work and to physics. This ambition is central to our five-year strategy and must continue to be at the heart of everything we do.”

Professor Sheila Rowan CBE, President, IOP

Rachel Youngman, Deputy Chief Executive, IOP

The IOP's plans and strategy

Our Strategy, *Unlocking the Future*, states as one of its core ambitions:

“We want to build a thriving, diverse physics community and play our part in solving the science, technology, engineering and maths (STEM) skills shortage by ensuring that people, no matter their background or where they live, have access to world class physics education and training.”

Who we're influencing through our strategy

Students and communities

To increase the number and diversity of students choosing to study physics.

Teachers

To have more good quality physics teachers with resources to engage people from all backgrounds.

Employers

To create professional and inclusive environments for all involved with physics.

Government

To encourage better distribution of funding for physics-related professions across the UK and Ireland and to ensure EDI is embedded into research and innovation.

Society

To raise awareness of the value of physics and the career opportunities available to all.

Goals and Targets

Increased participation in physics from under-represented groups from age 16-19.

Girls will make up at least 30% of those taking physics.

Double the current number of Black and ethnic minority students will take physics.

Double the current number of those from lower socio-economic backgrounds will take physics.

Analysis and action to tackle the root causes of the lack of gender, ethnicity and socio-economic parity in physics study, training and in careers.

Updating our Accreditation of Physics Degrees to include EDI requirements.

Reviewing our Project Juno award scheme against the challenges and barriers for physicists today and updating this as appropriate.

What you can do to improve diversity and inclusion in physics

Actively seek out different points of view

Different views and opinions can highlight where we lack awareness or new points to consider.

Use unbiased and gender-neutral language

Eg astronaut instead of spaceman. This contributes to breaking down gender stereotypes.

Be respectful, listen and ask questions: Agree to disagree

This leads to healthier debates overall and creates a safe environment for people to speak up and challenge.

Make connections

Consider how you may be able to connect people to your network if they are building theirs. Networks and relationships are powerful ways in which we can support others in their career.

Raising concerns

All employers and professional bodies will have a mechanism for raising concerns about unfair treatment. Contact your HR team to find out how to do this, or look on the website of your professional body.

Where to get more support and information

The diversity and inclusion pages of the IOP website:

<https://www.iop.org/about/IOP-diversity-inclusion#gref>

Our Limit Less campaign to encourage more young people to fulfil their potential by doing physics:

<https://www.iop.org/strategy/limit-less>

Project Juno, the IOP's programme to improve gender equality in university physics departments and similar institutions:

<https://www.iop.org/about/IOP-diversity-inclusion/project-juno>

The LGBT+ Physical Sciences Network:

<https://www.iop.org/about/iop-diversity-inclusion/LGBT-physical-sciences-network>

The IOP's Code of Conduct:

<https://www.iop.org/about-code-conduct>

The Science Council's Diversity and Inclusion Progression Framework:

<https://sciencecouncil.org/professional-bodies/diversity-equality-and-inclusion/diversity-framework/>

For further information contact

diversity@iop.org

The Institute of Physics (IOP) is the professional body and learned society for physics in the UK and Ireland. It seeks to raise public awareness and understanding of physics, inspire people to develop their knowledge, understanding and enjoyment of physics and support the development of a diverse and inclusive physics community. As a charity, it has a mission to ensure that physics delivers on its exceptional potential to benefit society.

The Institute of Physics is a charity registered in England and Wales (no. 293851) and Scotland (no. SC040092).

Endnotes

- 1* https://dash.harvard.edu/bitstream/handle/1/20453995/Collaborating%20w-People%20Like%20Me_Huang-and-Freeman_final-MS_Sept2014.pdf?sequence=3&isAllowed=y
- 2 <https://www.mckinsey.com/featured-insights/diversity-and-inclusion/diversity-wins-how-inclusion-matters#>
- 3 <https://hbr.org/2018/01/how-and-where-diversity-drives-financial-performance>
- 4 <https://www.iop.org/strategy/productivity-programme/innovation-survey>
- 5 <https://www.smf.co.uk/publications/in-the-balance-the-stem-human-capital-crunch>