



The Equator Project

How to build successful interventions to improve access and inclusion in postgraduate research

Recommendations for educators and higher education leaders



Natural Environment Research Council

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The University of Manchester



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British Geological Survey



The Geological Society

Royal Geographical Society
with IBG



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BLACK GEOGRAPHERS

UNIVERSITY OF LEEDS



Keele UNIVERSITY



ARIES
DOCTORAL TRAINING PARTNERSHIP

What is Equator?

Equator was a six-month project, funded by the Natural Environment Research Council, that developed three evidence-based interventions targeting different barriers to ethnic minority participation and retention in geography, Earth and environmental science (GEES) research.

1

To improve access and participation, a ring-fenced **research school** was delivered for ethnic minority undergraduate, Master's and doctoral students.

2

To increase retention and improve experience, a targeted **mentoring network** paired students with mentors from industry and academia.

3

To remove barriers to access, a **doctoral training working group** was formed to share best practice and develop recommendations to make PhD recruitment more equitable.



This guide makes **recommendations for building effective interventions to improve access and inclusion in research**. These reflections come from the Equator Research School and Mentoring Network, but are transferable to any widening participation initiative.

Why do this work?

The transition from undergraduate study to postgraduate research has been highlighted as a point in the academic pipeline where a disproportionate number of students from ethnic minority backgrounds are lost^{1,2}, due to a range of structural barriers and bias³. These same barriers then impact retention of PhD students from underrepresented backgrounds into research careers.

This retention gap into research is particularly concerning for subjects that have very poor ethnic minority representation at undergraduate level, such as geography, Earth and environmental sciences⁴.

Without change at this critical juncture, equality of representation across the senior levels of research in academia and industry is impossible.

Targeted interventions such as research schools and mentoring may not tackle the root structural and social inequities that lead to a lack of representation, but they are important steps to improve access and participation, sense of belonging, and student experience.

¹Higher Education Statistics Agency

²NERC 2021 Diversity in Funding Report

³Leading Routes 2019 The Broken Pipeline Report

⁴Dowey et al. 2021 Nature Geoscience



Build a community and co-create

Efforts to tackle equity, diversity and inclusion can only be effective when they engage at the earliest opportunity with the groups you hope to impact with the work.

- Take the time to build a diverse steering committee.
- Reach out to grassroots initiatives.
- Listen to students and stakeholders.
- Collaboratively decide on your goals.
- Co-create interventions to make change happen.

"When embarking on any public engagement programme, it is critical to consider the needs of your audience first. Consulting with communities about what is important to them and how they would like to engage with the subject matter is the first step towards delivering co-created outputs. Through this process, the potential to create lasting and impactful change, especially for those from underserved backgrounds, is enormous. Collaborative working brings the opportunity to dismantle constructs of power and open up pathways for knowledge and skills to freely flow, which can enrich the lives of those who need it the most."


Dr. Anjana Khatwa, EDI consultant
Equator Steering Committee



Think about the details

Take time to fully consider the inclusivity of any interventions.

- Is the location (online or in person) accessible?
- Are there sufficient breaks?
- Are there hidden costs that may present barriers to access?
- Are halal and vegan food options available?
- Is the timing accessible for those with caring responsibilities, or those participating in religious festivities?



Because of the timing of the funding, the Equator Research School had to occur at Easter, and fell during Ramadan. We asked participants for any requirements in initial recruitment materials, made sure that prayer spaces were available, and ensured that networking events did not involve food.

Involve the right people

If your interventions require mentors, training leaders, or specialist speakers, carefully consider who is best placed to provide support to marginalised communities.

Involve people with appropriate expertise, and budget accordingly to pay them for their time.



"What I enjoyed most about being a mentor and speaker on the EQUATOR Research School was that I was able to share my honest experience of being a Black British PhD student in earth sciences. Having the opportunity to speak to students on the programme who understand the challenges faced was incomparable, and it was rewarding to give back and support others on their academic journey."

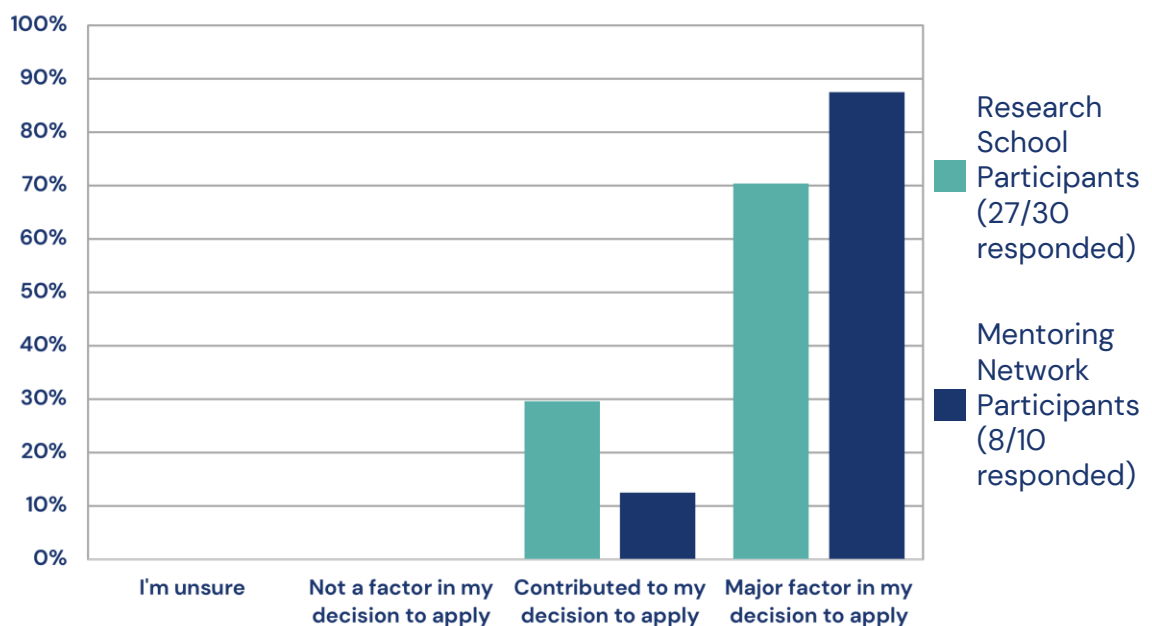
Louisa Brotherson, PhD researcher
Equator Research School Mentor

Ringfence to the target audience

Ensure that your planned intervention impacts the right audience by clearly ring-fencing the opportunity for those groups.

Make your criteria for recruitment clear, and offer a way for applicants to ask questions about eligibility.

How important was it that Equator was a ring-fenced opportunity?



Should it be discipline-specific?

Discipline-specific efforts may be more appropriate than institution-wide initiatives.

Connecting across related subjects can be effective at building relevant networks to improve representation and tackling barriers specific to a discipline- while still creating insights transferable to other areas.

"I think that having discipline-specific EDI interventions allows individual people's needs to be addressed more effectively. Speaking from my experience in geology, there are many expectations for people to go on fieldwork, enjoy walking for many hours, and have the money to buy outdoor equipment. Many of these expectations can be exclusionary and require discussion between different geologists and specific action to improve."

Dr Marissa Lo
Equator Research School Participant



Pay for time as well as expenses

Many field, lab and training opportunities that provide vital exposure to, and experience of, research involve explicit or hidden costs. These costs disproportionately impact those from marginalised communities.

Ensure that the time taken up by widening participation initiatives does not pose a financial barrier to access.

Being from working-class and minority background and not having funds during undergraduate studies to complete unpaid internships or participate in activities/ opportunities for which I had to pay, I could not fund many extracurricular and other experiences which would help me enhance my CV... I have a gap in my CV when it comes to certain experiences or opportunities or skills that are now considered compulsory for applying to PhDs, such as publishing papers, fieldwork experiences, research experiences outside degrees, and becoming a member/fellow of the subject societies, etc.

– Equator Research School Participant



Create a safe space

A safe, inclusive space is vital for community-building initiatives.

- Develop a clear code of conduct and share with participants in advance.
- Make sure staff are sufficiently experienced and understand the goal and ethos of the work.
- Provide space where participants can connect and network.
- Ensure that participants know what to expect, and know how to find support if they need it.

"..whilst I may have a queer POC support network outside of my degree, I don't feel like there are people in my faculty that understand the struggles that come with having an intersectional identity, especially in a field where POC or queer people aren't typically welcome or accepted."

– Equator Mentoring Network Participant



Give the full picture

Research careers are diverse and it is important to showcase them as fully as possible in order to appeal to people from a range of backgrounds.

- Include research perspectives from both within and outside of academia- involve both the private and public sector
- Present frank and honest perspectives about the realities of doctoral study and research careers, from those with recent experience
- When creating training opportunities, include a broad range of transferable skills and explain their relevance to research



"My favourite aspect has been having an industry mentor and an academic mentor as I have not really considered an alt-academic job as of yet so it has been very very useful to gain that perspective for preparing for future plans."

- Equator Mentoring Network Participant

Be open to feedback and change

The most important people in any scheme are your participants. Create feedback opportunities before, during and after the intervention, and be responsive to that feedback. Build in flexibility, and be prepared to change your plans or make amendments.

- Use formal feedback, such as surveys or questionnaires, to evaluate your scheme.
- Create simple but effective opportunities for anonymous informal feedback so you can learn and respond in real-time



WE HEAR YOU.

Take a long view

Create opportunities for networking, and for participants to keep in touch with both you and their peers to help ensure a lasting legacy. Connect participants into relevant national or international networks.

A longitudinal study will enable you to assess the lasting impact of your intervention, and will create insight for future schemes. Ensure you get permission from participants to contact them in the future.

The importance of having a supportive network was a strong theme during the school and continues to be something we've personally taken away from the project. Since April, we and the other participants have been sharing opportunities and interesting articles with each other over WhatsApp and LinkedIn, on an almost weekly basis.

***Equator Research School Participants
(in Geoscience for the Future [blog post](#))***

Resources

Visit the Equator website for infographics, links to the report, articles, blogs and a full reading list:
<https://equatorresearchgroup.wordpress.com/equatorresources/>

You can find the full Equator Report on EarthArXiv here:
<https://doi.org/10.31223/X5793T>



Equator Research School 2022 Participants

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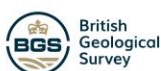
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Positionality and ethics

Of the seventeen authors of this work, seven identify as Black, Asian or minority ethnic. As geoscientists in academia and the public sector, we approach this work from the perspective of concerned geoscientists rather than scholars in equity, diversity and inclusion, although a number of the authors have EDI responsibilities in institutions or charities. The Equator project involved qualitative evaluation of experiences of students and professional geoscientists; this research received ethical approval at Sheffield Hallam University (ER39312553).

The work reported here took place over a short timeframe, with six months of funding from the Natural Environment Research Council and additional sponsorship from the British Geological Society. The authors would like to note that conducting EDI work needs time and space – to develop relationships and to build trust with stakeholder communities before embarking on project work, and to ensure longitudinal evaluation of interventions and outcomes can take place.

Get in touch



Dr. Natasha Dowey was principal investigator on the Equator project. She is Course Lead of Environmental Science and Senior Lecturer in Physical Geography at Sheffield Hallam University. She founded Geoscience for the Future, and is trustee of the charity Geology for Global Development. Contact Natasha on N.Dowey@shu.ac.uk.



Dr. Sam Giles was Co-Investigator on the NERC-funded Equator project. She is a Royal Society Research Fellow at the University of Birmingham and Academic Keeper of the Lapworth Museum. Sam has helped develop resources to make geoscience fieldwork more inclusive and has advocated for better practice in recruitment. Contact Sam on s.giles.1@bham.ac.uk.



Prof. Chris Jackson was co-Investigator on the NERC-funded Equator project. Chris is Director of Sustainable Geoscience at Jacobs. Chris is a champion of increasing diversity in geosciences and highlighting the importance of the subject to the general public. He is a Founding Trustee of the Cowrie Scholarship Foundation. Contact Chris on chris.jackson1@jacobs.com



Dr. Rebecca Williams is an Associate Dean for Student Experience and Associate Professor (Volcanology) at the University of Hull. Rebecca was EDI lead for the Earth Science, Environmental Science and Environmental Studies QAA Subject Benchmark review (2021) and holds the EDI Portfolio on University Geoscience UK. Contact her on rebecca.williams@hull.ac.uk



Dr. Ben Fernando was a researcher on the Working Group stream of Equator. He is now Access Fellow at Christ Church College in the University of Oxford, and works on the NASA InSight mission to Mars. He led Oxford University's Earth Sciences Department "Racial Diversity Audit" in 2020. Contact Ben on benjamin.fernando@chch.ox.ac.uk



Dr. Anya Lawrence was a researcher on the Mentoring stream of Equator. Anya's interests range from structural geology to research on the intersection of different types of identification and accessibility advocacy. As an intersectional individual, Anya is determined to help improve EDI in GEES research. Contact Anya on a.lawrence.2@bham.ac.uk



Dr. Munira Raji was a Researcher on the Research School stream of Equator. She is now Sustainable Geoscience and Natural Capital Research Fellow at the University of Plymouth. Munira co-founded the Black in Geoscience network and is a member of the European Geoscience Union (EGU) Equality Diversity & Inclusion (EDI) Working Group. Contact Munira on munira.raji@plymouth.ac.uk