

ACCE DTP (Adapting to the Challenges of a Changing Environment Doctoral Training Partnership) EDI Report 2023

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ACCE DTP EDI REPORT 2023

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AIMS

The Adapting to the Challenges of a Changing Environment Doctoral Training Partnership (ACCE DTP) EDI report analyses recruitment data from ACCE DTP1 and ACCE DTP2, covering ten rounds of recruitment from 2014-15 to 2023-24, and provides recommendations for improving equity, diversity, and inclusivity. It aims to:

- Assess changes in the profile of ACCE applicants, interviewees, and recruited students since the 2014-15 recruitment round.
- Identify any groups that are underrepresented at each stage of the recruitment process, including through comparisons to the UK general and postgraduate research (PGR) populations.
- Determine whether there has been a change in the profile of ACCE applicants, interviewees, and recruited students following the changes in recruitment procedures made prior to the 2021-22 recruitment round.
- Evaluate potential impacts of implementing alternative processes for future recruitment rounds, and provide recommendations for changes with a view to improving equity and inclusivity for underrepresented groups within ACCE recruitment.
- Explore different models of recruitment used across other Doctoral Training Partnerships (DTPs) and Centres for Doctoral Training (CDTs), determining alternative recruitment practices already trialled elsewhere which could be implemented within ACCE recruitment to improve equity and inclusivity.

Specific data has been removed from the publicly shared version of this report to prevent the possible identification of individuals. A summary of the key findings with regards to the diversity of ACCE applicants is provided.



CURRENT LANDSCAPE

Diversity in researchers is essential for reaching solutions to the complex, wide-reaching problems tackled by geoscientists. The combination of different perspectives and experiences of researchers from different backgrounds result in innovative and diverse ideas, methods, and solutions (Medin & Lee 2012), with diversity in groups of problem solvers being more important for reaching creative and effective solutions than high ability (Hong & Page 2004). Yet inequality impacts all aspects of STEM research, from conference participation opportunities (Ford et al. 2019; King et al. 2018) to telescope time allocation at observatories (Patat 2016). The geosciences in particular suffer from a lack of diversity, being the least diverse of all STEM fields in the USA (Bernard & Cooperdock 2018:292). A similar picture can be painted from UK data (Dowey et al. 2021), despite the importance and relevance of geosciences to local and global economies, and everyday life. For example, the subject areas of earth, marine, and environmental sciences, and geography and environmental sciences, have regularly had some of the lowest figures among all STEM subject areas for percentage of Black Asian and Minority Ethnicity staff members (AdvanceHE 2019:154; AdvanceHE 2021:156; AdvanceHE 2022:158), and there is a clear drop off in the proportion of women between student and staff career stages (AdvanceHE 2021:218; [HESA DT051 Table 46](#)).

Inequality is evident in the geosciences postgraduate research (PGR) population. In the USA, the proportion of underrepresented minorities among geoscience PhD recipients has not improved in over 40 years (Bernard & Cooperdock 2018:293). In the UK, there are stark gaps in access to PGR study (Sucharitkul & Windsor 2021:5). Representation of BAME students is notably lower at PGR level than undergraduate or postgraduate taught level, or the proportion of Black, Asian and Minority ethnicity 18-24 year olds in the UK population (Dowey et al. 2023:8-9). Within NERC PhD studentship starts, students from minority ethnicities, with a known disability, or aged 30 or over are underrepresented ([UKRI EDI funding data 2022: NERC studentship starts](#)).

Inequality is also evident more broadly in PGR populations. Postgraduate students with a known disability are more likely to leave with no award completed than those with no known disability (Joice & Tetlow 2021). Students who attended a more selective university and come from a more privileged socioeconomic background, whether measured in terms of parental occupation, parental education, neighbourhood, or type of school attended, are more likely to progress to postgraduate study (Sucharitkul & Windsor 2021:4, Wakeling & Mateos-González 2021:7). These factors can be linked, as socioeconomically disadvantaged

students are less likely to attend Russell Group universities and more likely to attend New (post-1992) universities (Britton et al. 2021). Similarly, undergraduate university applicants from minority ethnicities are less likely to receive offers from Russell Group universities than White applicants with the same A Level grades (Boliver 2016, Parel and Boliver 2014, Noden et al., 2014, Parel and Ball 2013). There is particular underrepresentation of Black, Pakistani and Bangladeshi students in Russell Group universities (Boliver 2015b). Black students are more likely to attend New (post-1992) universities (Williams et al. 2019:5), and have the lowest entry rate to high tariff institutions, with only 17% of Black HE entrants attending a high tariff institution (Bolton & Lewis 2023:14).

In many areas inequalities have recently been worsened by the COVID-19 pandemic, which disproportionately affected minoritised groups. The pandemic significantly exacerbated health inequalities between richer and poorer areas (RCP 2021), with working age adults in the poorest 10% or areas in England almost four times more likely than those in the wealthiest areas to die from COVID-19 (Suleman et al. 2021:5). Risk of death was significantly higher for people from ethnic minorities, and in 2020 six out of ten people who died with COVID-19 were disabled (Suleman et al. 2021:4). Women, people living in deprived areas, and those with another health condition or disability were among the highest proportions of the UK population self-reporting Long COVID (ONS 2022c). In the first year of the pandemic, women were more likely to spend more time on unpaid household work and childcare than men (ONS 2021).

Loss of education was also disproportionate, with children from more disadvantaged backgrounds experiencing a greater detrimental effect (Suleman et al. 2021:7). At school level, students from low income households were less likely to have appropriate device and internet access, school provision for remote learning, and parental support for home learning than those from high income households (Montacute & Cullinane 2021). Student engagement was lowest among vulnerable students; students with special educational needs and disabilities; students eligible for pupil premium funding; and young carers (Lucas et al. 2020). This is likely to increase the attainment gap (Montacute & Cullinane 2021; Blundell et al. 2022:615), putting disadvantaged students in a worse position for years to come. The A Level attainment gap widened in 2020 and 2021, widening further for students identified as persistently disadvantaged than for all disadvantaged students (Hunt et al. 2022; Tuckett et al. 2022), likely affecting the demographics of undergraduate students, especially at the most selective universities.

Disadvantaged and minority university students were also affected more than their peers. 73% of disabled students entering an undergraduate or postgraduate course felt their transition was negatively affected by COVID-19, and 80%

reported that the pandemic had a negative impact on their mental health and wellbeing (Borkin 2021). Likewise, 84% of LGBTQ+ students reported the pandemic had a negative impact on their mental health and wellbeing, compared to 70% of heterosexual and 73% of cisgender students (Frampton & Smithies 2021:63). Minority ethnicity students and students who attended state schools were more likely to have inadequate study space to complete university work (Montacute & Holt-White 2021:6). Additionally, working class students were more likely to work to cover basic living costs, thus being most vulnerable to job losses, and working class students, students who attended state schools, and students at New (post-1992) universities were most likely to experience financial hardship as job loss, reduction in hours, or not being paid (Montacute & Holt-White 2020:6-7; Montacute & Holt-White 2021:8-10). Disadvantaged students were more likely to say it was unlikely they would complete the year of study (Montacute & Holt-White 2021:11). These exacerbated inequalities will continue to affect inequalities in the experiences and backgrounds of PhD applicants for years to come.



ACCE CONTEXT

Ahead of the 2021-22 recruitment round, ACCE undertook a comprehensive assessment of their recruitment processes, with the intention of improving opportunities for students from non-traditional academic routes, and increasing the diversity of applicants and recruited students. As a result of this review, several changes to the recruitment processes were implemented. These included:

- the inclusion of a diversity statement in all studentship advertisements,
- introducing a guided proforma to replace the freeform personal statement,
- the inclusion of an open question on the proforma to allow applicants to provide additional information to contextualise their application,
- providing of training to assessors on how to use this contextual information to holistically assess applications,
- redefining "academic excellence" to "commitment to science" and recognising a wider range of skills and experience through an updated assessment rubric,
- adopting a holistic ranking system to replace the points based assessment system,
- and including an external chair from a different ACCE institution in shortlisting and interviews to monitor EDI issues and ensure consistency across institutions.

Following the first recruitment round in which these changes were implemented, assessment panel members anecdotally reported that several students who were unlikely to have been selected through the previous recruitment procedures were selected using the new recruitment procedures. Additionally, 75% of panel members felt that the changes helped to decrease inequalities in recruitment. However, this is entirely subjective. This report will analyse the ACCE recruitment data to empirically establish whether the changes implemented have resulted in genuine changes to those applying to ACCE, being selected for interview, and being offered a studentship.

Current ACCE Recruitment Process

The current ACCE recruitment process may be separated into the stages outlined below.

Project Design

The deadline for supervisors to submit studentship project proposals for the following year's cohort is late September each year. Supervisors are provided with the ACCE [sift](#)



criteria. A sift of all submitted proposals is carried out at individual institutions following the deadline. Projects are typically advertised from mid to late October, at which time applications open.

Applications

The deadline for applications to ACCE projects is in early January. Prior to applying, prospective are strongly encouraged to contact supervisors to discuss projects they are interested in. Prospective applicants are also encouraged to read the assessment criteria used in shortlisting. Applicants are required to submit a CV, a proforma personal statement, and details of two referees. To support applicants and help reduce coaching bias the ACCE website provides detailed guidance on how to apply, including a video application guide and written FAQs. The proforma used in place of a freeform personal statement is also intended to minimise coaching bias, with questions specifically designed to assess qualities which reveal potential to be an outstanding ACCE PhD student. The proforma also includes a question which gives applicants the opportunity to provide additional information to frame their applications, to facilitate the contextualisation and holistic assessment of applications.

Supervisor Sift

Following the application deadline, applications are sent to the supervisors of each project. Supervisors assess applications for their project, and nominate one applicant to be put forward to interview.

Pre-Interview Shortlisting

In early February the written applications of applicants nominated by supervisors are assessed by an ACCE panel at each institution to form a shortlist of applicants to invite to interview. Shortlisting panels also include a member from a different ACCE institution who does not rank applications but provides input to question any EDI issues and helps ensure consistency across institutions. Each ranking panel member categories applications as "outstanding", "excellent", "suitable", and "not suitable" using holistic judgement. This is used as a starting point for discussion to identify which candidates to invite to interview.

Interviews

Interviews take place in mid to late February. Interviews for the universities of Liverpool, Sheffield, and York are held online to ensure fairness between home and international interviewees. Interview panels consist of three members from the recruiting institution who are responsible for asking questions and ranking applicants, an external chair from a different ACCE institution who is responsible for overseeing the process and ensuring consistency, and a student

representative. The interview begins with a five-minute presentation by the applicant (either pre-recorded or live), which is followed by a series of questions. The questions are pre-written, and follow up questions are only used where the candidate does not fully answer the question or if it appears the student did not understand the original question. At the end of the interview, interviewees are given the opportunity to add any further information in support of their application such as barriers they have overcome, and to ask any questions they may have.

Post-interview ranking

Following the completion of each institution's interviews, ranking panel members discuss and holistically assess candidates according to the assessment rubric. Where discussions involve applicants for whom there is a conflict of interest for an interviewer (for example they are the supervisor of the proposed project) the external panel chair is included in discussion to ensure an equal number of panel members are contributing. Following the final ranking of interviewees, offers are sent out to the top applicants, with remaining appointable candidates forming a reserve list.

Applicant responses to offers

Applicants who are offered an ACCE studentship have until the NERC universal acceptance deadline on the third Wednesday of March to accept their offer. If any candidates decline the offer of a studentship, an offer is made to the next candidate on the reserve list.

The stages of the ACCE recruitment process represented in EDI data are as follows:

- *Applications* - total applicants to ACCE.
- *Interviews* - applicants shortlisted and invited to interview. Where available this includes applicants who declined the invitation to interview.
- *Offers* - applicants offered an ACCE studentship. This includes any applicants who declined offers, and any applicants from the reserve list who were made an offer.
- *Accepted* - applicants who were made and accepted an offer of an ACCE studentships.



ACCE applicant data included in this report covers ACCE studentships, ACCE NPIF studentships, and ACCE affiliated studentships. There have been ten years of ACCE recruitment, covering DTP1 (2014-2018) and DTP2 (2019-2023). The universities of Liverpool, Sheffield*, and York recruited ACCE students in each of these years. The UK Centre for Ecology and Hydrology recruited ACCE students in 2014, 2016, 2017, 2018, 2019, and 2021. The Natural History Museum, which became an ACCE partner within DTP2, recruited ACCE students in 2021, 2022, and 2023.



*In 2023-24 the University of Sheffield carried out a second, later round of recruitment, triggered by a last-minute provision of additional funding for several ACCE and ACCE affiliated studentships. 2023-24 data analysed within this report covers only the first 2023-24 recruitment round.

DIVERSITY OF ACCE APPLICANTS

Specific data has been removed from this report to prevent the possible identification of individuals. The following section provides a brief summary of the ACCE DTP's areas of diversity and underrepresentation.

Diversity

- ACCE applicants and appointed students have been most diverse with regards to sexual orientation, with applicants who identified as LGB+ being well represented in ACCE, and the proportion of LGB+ applicants increasing throughout the recruitment process.
- A gender balance between male and female applicants has been consistently maintained. Recently, the proportion of applicants who identified as a gender other than male or female has increased, as has the success of such applicants. It is likely that restrictions in answer options in EDI data collection was a contributing factor to the lack of evidence of applicants of other gender identities prior to this.
- The proportion of ACCE applicants with a known disability was higher than in wider PGR populations, but lower than in the UK population. Recently, the proportion of applicants with a known disability has regularly increased as the recruitment process progressed.
- There have been applicants to ACCE from every continent. The proportion of non-UK applicants has increased since UKRI studentships were opened up to all international applicants. The proportion of international applicants often decreased during the recruitment process, although this is at least partially due to the mandatory UKRI-imposed 30% cap on international students.

Underrepresentation

- The area which is the greatest cause for concern with respect to the diversity of ACCE applicants is ethnicity. Where ethnicity data is available, the diversity of applicants worsened during the recruitment process. Any increases in the proportion of applicants who identified as people of colour have been primarily due increases in international applicants, who may not be considered as belonging to a minority ethnicity within their country of nationality.
- The older someone is, the less likely they are to apply to ACCE. Recently, the age of ACCE applicants has increased, but this pattern has not translated through to any subsequent recruitment stage, with younger applicants continuing to be more successful.

- The data available indicates underrepresentation of applicants from disadvantaged socioeconomic backgrounds. When measured in relation to parental education, applicants who had a parent or guardian with an HE qualification were more likely to be successful than those who did not. However, when measured using POLAR4, the data available suggests that POLAR4 quintile affected how likely someone was to apply to an ACCE studentship, but not their success within the recruitment process.
- Applicants who learnt about ACCE from an advisor or supervisor were more likely to be successful at each stage of recruitment. This may indicate that such applicants have benefitted from additional support in producing a strong paper application and performing well at interview, although it is unknown what support such applicants received beyond being informed of ACCE.
- For ACCE applicants who most recently attended a UK university, most applicants came from Russell Group and/or Boliver (2015a) cluster 2 universities. Such applicants were more likely to be successful throughout the recruitment process. The proportions of such applicants decreased over time, but this was due to an increase in the proportion of applicants from non-UK universities.
- The majority of ACCE applicants held, or were enrolled on, a master's degree, and the proportion of applicants with a master's degree increased over the course of the recruitment process. Recently, there has been a significant increase in the proportion of applicants accepting offers who held or were enrolled on a master's degree.

Effects of the 2021-22 changes to the ACCE recruitment process

The data available shows no evident positive impact of the changes made to the ACCE recruitment process prior to the 2021-22 recruitment round on the diversity of applicants at any stage of the recruitment process, but instead indicates the continued pervasiveness of coaching bias. However, it must be stressed that for multiple characteristics of ACCE applicants there is insufficient data to establish whether there was any impact on diversity from the 2021-22 recruitment process changes.

RECOMMENDATIONS

Recommendations for ACCE fall into three key areas: outreach, recruitment, and retention. These include recommendations prompted by the Equator report (Dowey et al. 2023) and NERC Best Practice Principles (NERC 2021b). Each recommendation is labelled below as short term or long term according to the likely time, coordination and planning involved in its implementation, and as high or low anticipated workload according to the likely staff time and resources needed.

Implementation time scale	Anticipated workload	Recommendation
Outreach		
Long term	High	Outreach activities targeting underrepresented groups
Recruitment		
Short term	Low	Regular review of recruitment processes
Short term	Low	Transparency of EDI and recruitment practices
Long term	High	Implementation of alternative recruitment processes
Recruitment: EDI Data Collection		
Short term	Low	Mandatory EDI data collection for every applicant
Short term	Low	Continued standardisation of EDI data collection
Short term	Low	Regular review of EDI data collection
Recruitment: Project Proposals and Advertising		
Short term	High	Use of inclusive language in project advertisements
Short term	Low	Prioritisation of diversity in supervisory panels
Short term	Low	All projects to be feasibly designed to be completed within the funded period

Short term	Low	Provision of additional information in project advertisements: <ul style="list-style-type: none"> • Essential and desirable skills • CASE status of projects • Part-time study options
Short term	High	Broader advertising of ACCE projects beyond current locations
Recruitment: Applications		
Long term	High	Additional application support: <ul style="list-style-type: none"> • Application guidance videos • Regularly updated FAQs • Applicant mentor schemes • Email template/contact form for initial supervisor contact • Opportunity to attend ACCE's annual conference • Effective dissemination of application support
Short term	Low	Explicit determination and effective communication of when the 30% cap on international applicants is to be implemented
Short term	High	Standardisation of application documents
Long term	High	Review of application timelines with a view to increasing time available for applicants and shortlisting panels
Long term	High	Implementation of a second recruitment round
Short term	Low	Provision of feedback to all applicants
Recruitment: Shortlisting		
Short term	High	Mandatory EDI and unconscious bias training for anyone involved in the assessment of applications
Short term	Low	Prioritisation of diversity in shortlisting and interview panels
Short term	Low	Review of which application documents are provided to assessors
Short term	Low	Removal of references from documents provided to assessors
Recruitment: Interviews		
Short term	Low	Regular review of interview questions
Short term	Low	Sharing of interview questions with interviewees in advance

Long term	High	Ringfenced interviews for applicants from underrepresented groups
Short term	High	All interviews attended by the same person to facilitate inter-institutional consistency
Recruitment: Offers		
Long term	High	Ringfenced studentships for applicants from underrepresented groups
Long term	High	Provision of offers conditional on applicants undertaking a paid bridging programme
Retention		
Short term	High	Analysis of retention data
Retention: Student Wellbeing and Inclusivity		
Short term	Low	Regular and effective communication of available wellbeing resources to students
Long term	High	Targeted wellbeing support for minority groups
Short term	Low	Inclusivity at the forefront of training design
Short term	Low	Earlier dissemination of information regarding training
Short term*	Low	Prioritisation of inclusivity and wellbeing for fieldwork, placements, and research lab visits
Retention: Career Support		
Long term	High	Provision of additional career support, with ringfenced places for minority groups
Long term	Low	Collection and publication of destination data and case studies from ACCE graduates

*Long term if implemented within DTP3 training grant application.

Outreach

Outreach activities targeting underrepresented groups

Previous research has found that the main barrier for diverse recruitment in Doctoral Training Organisations appears to be attracting applications (Dowey, N. et al. 2023:23). ACCE recruitment data indicates that there is a particular lack of diversity among applicants for the characteristics of ethnicity, age, and socioeconomic background. Anecdotal evidence from other NERC DTPs and CDTs suggests that this issue is not limited to ACCE, while data from NERC shows a lack of diversity within several characteristics in studentship starts ([UKRI EDI funding data 2022: NERC studentship starts](#)).

This lack of diversity in ACCE and beyond is likely in part due to a lack of diversity earlier in the pipeline, and the barriers faced by underrepresented groups from young ages. For example, a Geological Society of London survey revealed that 60% of undergraduate geology students had a lifelong interest in the natural environment (Dowey et al. 2021:256). Given that in the UK Black African, Pakistani, and Bangladeshi people are more likely to live in urban areas (ONS 2022a; ONS 2022b), and Pakistani, Bangladeshi, Mixed/Multiple ethnicity, Chinese, and Black children are more likely to be from low-income households (Antonopoulos et al. 2020), children from such minority ethnicities have significantly less access to natural environments than White children, and thus are less likely to develop an interest in environmental science subjects such as geology. Due to contributing factors such as this, in recent years physical geography, geology, and environmental sciences have been the three worst physical science subjects for minority ethnicity undergraduate participation in the UK, and have poor retention levels of minority ethnic students into PGR study (Dowey et al. 2021:257, [HESA DT051 Table 45](#)). Although it may not have an immediate impact, outreach is the approach most likely to have a meaningful long term impact on the diversity of environmental sciences PhD applicants. Prioritising outreach would also demonstrate ACCE's commitment to diversity outside of its own short term interests. This would also bring the benefit of opportunities to participate in outreach to current and future ACCE students.

A short term opportunity for outreach is available through the NERC 'Diversifying the Talent Pipeline' flexible funding, while a longer term opportunity is available within the ACCE DTP3 application.

Outreach to target underrepresented and disadvantaged groups may be undertaken in many forms. This could involve visits to schools or school visits to ACCE institutions; partnerships with charities; science festivals; production of

educational materials; engagement with those looking to return to science; engagement with Guides and Scouts; summer schools; holiday clubs; lecture series; and more. Outreach activities could be coordinated with other NERC DTPs and CDTs, coordinated with outreach and widening participation teams in individual ACCE institutions, or linked to wider events such as International Geodiversity Day or Earth Day, for wider impact. Outreach undertaken should aim to either create interest or educate in the environmental sciences. Examples of outreach by NERC funded DTPs and CDTs can be seen from ONE Planet's COP26 related activities, GW4+'s partnerships with Sparking STEM and The Brilliant Club, and ECORISC's summer scholarship training scheme.

The inclusion of outreach with the ACCE DTP3 application would generate a stronger, longer term commitment. This could be done through a requirement for all ACCE projects to contain an outreach component, either as a bespoke arrangement organised by the supervisory team, or as a predetermined option from a selection provided by ACCE, following a similar model as the GW4+ DTP's requirement for all projects to be collaborative. This would recognise the value of outreach for generating interest among, and opportunities for, underrepresented and historically disadvantaged groups, as well as providing wider opportunities and experiences for students to develop into more rounded scientists.

Any student or staff member who is not contracted to undertake outreach should be fairly compensated for their time spent on outreach activities.

Outreach activities should be ongoing or repeated at regular intervals (e.g. yearly) for the duration of the ACCE training grant. Only undertaking outreach activities once or for a short time from is significantly less likely to be effective, and would demonstrate a tokenistic approach to EDI.



Recruitment

Regular review of recruitment processes

The ACCE DTP has committed over the past few years to improving equity and inclusivity in its recruitment procedures, and is considered an example of best practice ([University of Liverpool FHLS Intranet](#)). However, underrepresentation of minority ethnic applicants, socioeconomically disadvantaged applicants, and applicants aged 30 or over remains, indicating that further changes are necessary. Regular review and update of recruitment practices, with input from stakeholders such as selection panels, supervisors, and applicants, is needed to ensure ACCE recruitment remains at the forefront of best practice.

For example, applicant data indicates that applicants with a master's degree as their highest qualification have been more successful since the updates to ACCE recruitment practices in 2021-22, despite updates to the assessment rubric being intended to recognise a wider range of skills and experience than traditional markers of academic excellence. It would thus be beneficial to review the assessment rubric to evaluate whether the criteria are assessing desired qualities, or continue to prioritise experience more likely to be held by those who have undertaken a master's degree. Additionally, criteria should be regularly reviewed to determine whether they may disproportionately benefit those from privileged backgrounds, who are overrepresented in ACCE. For example, the current ACCE rubric lists 'participating in department or university culture' such as societies as an example of a non-opportunity linked example of an applicant going above and beyond simply completing their degree. However, there is a participation gap between middle class and working class students in relation to participation in university and departmental societies, which recently widened during the COVID-19 pandemic (Montacute & Holt-White 2021:3-4). Thus the inclusion of this in ACCE assessment rubric may in fact benefit applicants from middle class backgrounds.

Regular review of recruitment process, especially alongside applicant data, would ensure that ACCE recruitment continues to improve equity and inclusion.

Transparency of EDI and recruitment practices

Transparency around EDI and recruitment practices would empirically demonstrate ACCE's commitment to increasing diversity and creating inclusive environments for applicants and students, proving that previous and ongoing EDI work is not a tokenistic, performative gesture. This can be valuable to a range of stakeholders, including prospective applicants and supervisors, current students and supervisors, and NERC. Crucially, transparency around EDI practices during recruitment, and as support for students, may be attractive to a more diverse

range of prospective applicants from currently underrepresented backgrounds, who may be hesitant to apply. By being transparent about its EDI work, ACCE would be helping prospective applicants trust that their applications will be assessed fairly, regardless of their background. Additionally, transparency can help ensure applications are indeed assessed fairly, by creating accountability for those involved in assessing applications and allowing easier identification of biases affecting decision making. Transparency would also benefit current students by making meaningful strides towards creating a more inclusive environment, providing students more opportunity to have their say about ACCE EDI efforts, and facilitating conversations and awareness that leads to long term cultural change within ACCE.

Transparency of ACCE EDI work may be achieved through regular updates to the EDI pages of the ACCE website, including details of what has been achieved so far, work currently in progress, and future plans. Webpages for prospective applicants should continue to be transparent about the recruitment process, as has been achieved by recent updates providing detail on the recruitment process, what is involved in an ACCE PhD and support available, and sharing the assessment rubric used in shortlisting and post-interview decision making. Webpages for current students should be kept up to date with support and wellbeing information. All such webpages should be regularly reviewed and updated with any changes or new information. To ensure this is accessible to as many people as possible an accessibility audit of ACCE's website could be carried out. EDI updates may also be publicised on ACCE's social media.

Implementation of alternative recruitment processes

Several NERC DTPs and CDTs have recruitment processes which are noticeably different from ACCE recruitment. Several examples are outlined below.

ECORISC two stage written application

Applicants to the ECORISC CDT submit written applications in two stages. In the first stage, which has a deadline of early December, applicants can express interest in up to four projects, and are questioned on their qualifications, research experience, and motivation. Applications are anonymised and assessed by at least five members of the management team. Applicants are ranked and the top applicants invited to the next stage.

All applicants who progress to stage 2 are invited to meet with supervisory teams in early January. All applicants meet with supervisory teams at the same time to ensure all are provided with the same information. Following this, applicants can apply to up to two projects, and are questioned specifically on the projects they are applying for. Questions cover reasons for interest in the project(s), identifying

relevant references for the project(s), what the first research question the applicant would address would be, and how the applicant's skills and experience correspond to those needed for the project(s). Applications are anonymised and ranked by supervisory teams, with the top two applicants for each project being invited to interview.

London DTP general application

Applicants to the London DTP do not apply to a specific project, but make a general application to the DTP and one of its research themes. Prospective applicants are not expected to contact potential supervisors prior to applying. Within the application, applicants are asked to detail their interest in and fit to the London DTP, with evidence from their skills, experience, and background, along with information on their research interests and aptitude for interdisciplinary study. During the first six months of their PhD, students undertake a core training programme across all of the DTP's partner institutions, along with regular 'meet the supervisors' events. At the end of their first term, students submit a choice of two project titles, of which they are allocated one, and at the end of their second term, students present their PhD project plans to their cohort. In their third term students join their primary research institution and begin their PhD project. This approach is facilitated by the close proximity of the DTP's institutions.

CENTA double marking of applications

At the CENTA DTP, written applications are scored firstly by an academic panel from the chosen host institution, then sent to an academic panel at a different CENTA institution to be scored again. The panel at the second institution does not see the scores from the panel at the first institution. The scores from the two panels are then combined and averaged, and the top scoring applicants invited to interview.

Panorama three part interview process

Applicants who are invited to interview at the Panorama DTP partake in three short competency based interviews. Each interview lasts approximately 15-20 minutes, and each is conducted by a different pair of interviewers. This allows interviewees to be interviewed by six different interviewers without confronting them with a large panel. One interview has an academic focus, questioning interviewees on past research projects, the PhD project they are applying for, and the research skills required for it. The remaining two panels have a soft/transferable skills focus, questioning interviewees on non-project related personal attributes that are beneficial for a successful PhD student, such as project management, resilience, communication, creativity, and motivation.

SENSE practical test interview questions

For interviews at the SENSE CDT, a number of interview questions are asked in the format of a practical test. This is intended to provide an opportunity for applicants to showcase their proficiency with regards to key skills and to minimise the burden on descriptive answers. Interviewees are provided with information regarding the general nature of the practical test in advance of the interview.

EDI Data Collection

Mandatory EDI data collection

In order to facilitate accurate comprehensive and accurate analysis of applicant data, the completion of an EDI form should be mandatory for all applicants.

The current optionality of the EDI form for ACCE applicants has resulted in high levels of unknowns in current data where applicants have not returned an EDI form. This ensured that data analysis has resulted in an indication rather than a wholly accurate view of the demographics of ACCE applicants. Making the completion of an EDI form a mandatory part of the application process would allow for a far more accurate picture of ACCE applicants to be established, which would in turn allow for more accurately targeted recommendations to suit the needs of applicants. The drawback of optional EDI data collection may be illustrated by the recent second ACCE recruitment round at the University of Sheffield.

Findings from other DTPs have indicated that applicants for a second, later recruitment round are more likely to come from diverse backgrounds (Nottingham Researcher Academy 2022:5). In the 2023-24 ACCE recruitment round, the need for a second recruitment round at the University of Sheffield was triggered by the provision of last-minute additional funding for several ACCE and ACCE affiliated studentships. This offered the opportunity to test findings from other DTPs regarding second recruitment rounds with respect to ACCE. Anecdotal evidence from the University of Sheffield ACCE interview panel confirmed that the quality of candidates invited to interview in the second recruitment round was equal to that of the first recruitment round. However, only four applicants in the second recruitment round returned an EDI form. Of these four, only one was interviewed, and none made an offer of a studentship. This meant there was insufficient data for analysis. Thus it is not possible to conclude whether a second recruitment round would be beneficial to applicants from underrepresented groups and diverse backgrounds from the opportunity provided to do so.

EDI data collection could be facilitated by the use of an online survey platform, such as Google Forms or Microsoft Forms. The use of such a platform would allow for anonymous data collection while reducing the current administrative workload

of manually inputting data from EDI forms into a spreadsheet. EDI data could be traced through to later recruitment stages by issuing applicants with a unique identifier as part of the EDI form. This unique identifier could be requested from interviewees in order to extract EDI data for later stages of the recruitment process, or from all applicants to confirm completion of the EDI form as a mandatory part of the application, as is done by Quadrat DTP. Such requests should be accompanied by a statement to confirm that the unique identifier provided will only be used to extract the appropriate data and, as with individual EDI form responses, will not be seen by anyone involved in the decision making process.

Continued standardisation of EDI data collection

The EDI form used should continue to be standardised across institutions. This has been done in recent years of ACCE recruitment through each institution sending the same ACCE EDI form to applicants. Standardisation with an online form could be achieved by all ACCE applicants completing the same form, with the form including a question on which institution the applicant is applying to attend to allow for the extraction of data for individual institutions. EDI data could be downloaded by the DTP management team (currently based at Liverpool) immediately following the application deadline, reducing the administrative workload of administrators at other institutions of compiling and sending their EDI data. Making the EDI form a mandatory part of the application process would also reduce the administrative workload of emailing the EDI form to each individual applicant for each institution.

Regular review of EDI data collection

EDI data collection should be regularly reviewed, and the EDI form completed by candidates updated accordingly. As part of the current EDI project, the ACCE EDI form has been updated to include additional questions on trans identity and socioeconomic background; a wider range of answer options for existing questions; and the option to self-describe for questions on gender, disability, ethnicity, and sexual orientation. All questions include a 'prefer not to say' option, which is an essential inclusion if the EDI form is made mandatory. Mechanisms should be put in place to ensure that regular review of EDI data collection continues in subsequent years.

Project Proposals and Advertising

Use of inclusive language in project advertisements

The language used in recruitment materials offers applicants their first view into the organisational culture of ACCE. It can convey inclusiveness and commitment to diversity, but may also unknowingly encode biases that exclude certain groups

from establishing a perceived fit with ACCE and discourage prospective applicants from submitting an application (STEMM Change 2021:2).

Supervisors should be provided with guides for using inclusive language in their project proposals and essential and desirable skills lists. Within the information provided to supervisors for 2024-25 project proposals, guidance has been provided on gender coded language. This guidance should be expanded to cover inclusive and exclusionary language relating to other minority groups.

Additionally, the use of inclusive language within project proposals is currently dependent on supervisors themselves, with no provision in place to review project proposals' language and make changes to any exclusionary language used. The language of project proposals could be reviewed by project sift panels as part of the project sift process. Alternatively this could be done by a member of DTP administrative staff with a dedicated EDI component to their role, or using a product such as Textio as is done by the ECORISC CDT and SSCP DTP, to avoid creating extra workload for already overburdened academic staff.

Prioritisation of diversity in supervisory panels

Diversity among supervisory panels should be encouraged in the strongest possible terms, for example as a necessity or high priority within sift criteria. Lack of diverse representation has been highlighted as barrier to engagement with environmental sciences, and a limiting factor in the appeal of a career in environmental sciences (NERC 2021a:9). Lack of diversity in supervisory panels is especially detrimental to minority students, presenting challenges for the student to identify shared experiences and interests with their supervisors, and to navigate a relationship with their supervisors alongside the complexities of conscious or unconscious bias (Williams et al. 2019:5), as a member of the supervisory teams' outgroup. Caution should be taken not to overburden individual staff members in improving the diversity of supervisory panels.

All projects to be feasibly designed to be completed within the funded period

Guidance for project supervisors should also include a reminder to consider the length of students' funded period, to ensure that all projects can be completed and the thesis submitted within the funded period. Students are allowed a maximum of four years in which to submit their thesis by their awarding institution, but ACCE funding covers three and a half years. Use of the unfunded six months may be financially viable for some students but not others, depending on their backgrounds. Ensuring that all projects are designed to be completed within the funded period ensures that students who cannot afford to use their unfunded time are not disadvantaged, and will not be subject to the additional stress of rushing to complete a project early.

Provision of additional information in project advertisements

Advertisements for each ACCE project should contain additional information than in previous years:

- *Essential and desirable skills.* The rubric and guidelines used in assessing applicants includes criteria for whether the applicants' skills match the essential and desirable skills for the project. However, in the previous recruitment round the essential and desirable skills for each project were not made available to applicants, meaning they were required to demonstrate that they met certain criteria without knowing what the criteria were. Project advertisements should contain a list of the essential and desirable skills to allow applicants to appropriately demonstrate that they meet these criteria.
- *CASE status of projects.* ACCE rubric and guidelines state that when candidates are deemed to be equal or a consensus on student quality cannot be reached, CASE projects should be favoured. However, this is not made clear to applicants, and information on the where a project is or is not CASE is only intermittently included on project adverts. This means that some applicants are being unknowingly penalised for choosing the 'wrong' project. All project adverts should include information as to whether the project is a CASE project or a non-CASE project, as well as what this means within the context of the application process, to allow applicants to take this into account within their decision making. Although this may lead to less applicants for non-CASE projects, low applicant numbers may encourage supervisors to collaborate with a CASE partner for any future project proposals, thus increasing the proportion of ACCE projects which are CASE funded.
- *Part-time study options.* Project advertisements should include the information that all ACCE PhD studentships are available both full-time and part-time. Information on part-time study options may help ACCE studentships appeal to applicants with time commitments such as caring responsibilities.

Broader advertising of ACCE projects beyond current locations

Advertisements of ACCE projects in a wider range of locations may be beneficial for targeting underrepresented groups. Anecdotal evidence from other NERC DTPs suggests that increased, wider advertising has led to increased applicant numbers from underrepresented groups, and increased applicant numbers for REPs.

In 2023 ACCE was advertised on BBStem.co.uk for the first time. Although advertising on BBStem.co.uk did not lead to any applications, different methods

should be tested rather than considering this ineffective. The 2023-24 advert was placed on BBStem.co.uk late into the recruitment period. Projects were advertised in October and the application deadline was in mid-January, but the BBStem advert was not placed until late November. Additionally the advert was only live on the BBStem website for one month. In future recruitment cycles an advert could be placed on BBStem.co.uk when applications open in October, for the duration of the application period. Furthermore, there was only one general ACCE advertisement placed on BBStem.co.uk, in comparison to adverts for each individual project being placed on FindaPhD.com. Future BBStem adverts could be placed for each individual project, or a list of project titles could be included in a single ACCE advert for a more cost-effective option.

In future recruitment rounds advertising should be expanded to other diversity networks, particularly those that target groups underrepresented in ACCE. A list of appropriate diversity networks is available in the NERC EDI network Google Drive as a live document, and widening participation teams at ACCE institutions may have connections through which to advertise to underrepresented groups. Additionally, ACCE adverts may be targeted through email to students in relevant departments at non-Russell Group or Boliver cluster 2 universities, who are less likely to apply to ACCE. To this end a list of appropriate staff contacts at non-Russell Group/cluster 2 universities who may disseminate information about ACCE projects to students should be drawn up. A similar list is available in the NERC EDI Network Google Drive as a live document. Additionally, supervisors are likely to have contacts at different institutions, and should be asked to contribute to such a list.

Social media may also be a key source for ACCE advertising. X (previously Twitter) is already used for advertising ACCE projects, and is noted as the source that several applicants learnt about ACCE from. Advertising could be expanded to other social media sites. This could be implemented as a paid opportunity for an ACCE student to take on a social media management and content creation role for ACCE.



Applications

Additional application support

Evidence from recruitment data indicates that some applicants may be benefitting from additional support from advisors or supervisors. This could be mitigated by providing increased support for all applicants.

- *Application guidance videos.* Video guidance would be beneficial on a variety of topics, such as how to apply; what supervisors and selection panels are looking for; what to expect and how to do well at interview; or what to expect from an ACCE PhD, including current students' experiences. Such applicant support is currently available from a range of other NERC DTPs and CDTs. For example, Envision Panorama, and SENSE have provided recordings of applicant support workshops, while E4 and SENSE provide student spotlights, journey testimonies, and day in the life videos. Providing this additional information to prospective applicants would help to mitigate coaching bias by providing those who do not have additional support with the type of information that those who do are likely to receive. Presenting this additional support through recorded videos on the ACCE website would be most accessible for all prospective applicants, including those with time commitments such as work or caring responsibilities that could prevent them from attending a live application workshop. The accessibility of videos produced should be considered. For example videos should be produced with closed captions or with an accompanying transcript. A contact form or email address should be provided alongside videos to give prospective applicants the opportunity to ask questions.
- *Regularly updated FAQs.* FAQs should be reviewed and updated before applications open each recruitment round to reflect any changes to recruitment procedure and to provide the most up to date advice and guidance.
- *Applicant mentor schemes.* Applicant mentor schemes would pair prospective applicants with current ACCE students to provide support and guidance on the application process. This could be open to all applicants, or targeted towards applicants who are underrepresented in ACCE. Applicant mentor schemes have been offered by various NERC DTPs and CDTs in different formats. Panorama and SENSE offered one to one sessions with an EDI officer, while Envision offered one to one sessions with the DTP manager. ONE Planet provided the opportunity for applicants to get in touch with DTP students who were happy to be contacted by prospective applicants by sharing the students' email addresses on the DTP website. Envision ran a scheme for applicants who fulfilled certain widening participation criteria to be mentored

by current PhD students, who were trained and paid for their time, with places allocated using a lottery system.

- *Email template or contact form for initial supervisor contact.* A straightforward and prewritten means of making initial contact with a supervisor would benefit various applicants such as those who do not have a lot of time available to spend on the application process due to time commitments like caring or work responsibilities, or those with anxiety who may be negatively affected by the stress of initiating contact with a supervisor they do not know. This could be done through an online contact form for supervisors, or through provision of an email template designed through consultation with supervisors as to what they want from an initial contact email. Guidance to supervisors should advise not to judge applicants based on whether or not they make use of the contact method provided.
- *Opportunity to attend ACCE annual conference.* The ACCE annual conference take place in November. In relation to the recruitment timeline, this is a few weeks after projects are advertised in October, and approximately two months before the application deadline in January. Inviting prospective applicants to the ACCE conference would provide the chance to experience the opportunities available through ACCE, since the conference is student organised and all students have the opportunity to present their research. Prospective applicants would get the chance to learn about the wide variety of current ACCE projects, and the opportunity to speak to ACCE students and supervisors to get a variety of perspectives and further information on undertaking a PhD with ACCE. ACCE students presenting their research would also benefit from the experience of presenting to a larger and more varied audience. To facilitate the attendance of prospective applicants from underrepresented groups, specific funding should be provided (Bernard & Cooperdock 2018:395) for travel and accommodation for groups underrepresented in ACCE recruitment. Additionally, any reasonable adjustments should be provided for prospective applicants with disabilities. A hybrid conference with a virtual attendance option would improve accessibility and provide prospective applicants unable to attend in person the opportunity to gain some experience of what is involved in being an ACCE PhD student.

- *Effective dissemination of application support.* Links to support and guidance for applicants should be included on every project advert to maximise the dissemination of application support to all prospective applicants. The placement of such links at the top of the advert would maximise the probability of applicants seeing and interacting with them. Additionally, information, or links to webpages with the relevant information, on topics such as applicant support, financial support available, part-time study options, disabled students' allowance funding, ACCE wellbeing support, and more could be provided regularly on ACCE social media during recruitment periods to effectively inform prospective applicants of the resources, support, and options that would be available to them with ACCE.

Explicit determination and effective communication of when the 30% cap on international applicants is to be implemented

Due to the complications caused by the UKRI 30% cap on studentships offered to international applicants, in combination with the increasing proportion of applicants who are international, it should be explicitly determined at what point in the recruitment process the 30% cap will be implemented, and this information should be made clear to prospective applicants in application guidance materials. For example, if only 30% of interview places at each institution are to be offered to international applicants, this should be made clear to applicants and in guidance for shortlisting panels. An example of effective communication may be seen on the [E4 DTP website](#), which clearly indicates that the cap on international students is applied at the interviews and offers stages.

Standardisation of application documents

Within the updates to the recruitment process in 2021-22, the freeform personal statement required in ACCE applications was standardised using a proforma template, which all applicants must complete. However, the CV which applicants are also required to submit has not been standardised, and there remains much variation between candidates in terms of content included. Standardising the CV used in ACCE applications can remove potential for unconscious or conscious bias by excluding certain information, and can ensure that all candidates *are* including all the information that is needed to accurately assess their potential.

A standardised CV can remove potential for bias related to personal characteristics by preventing the inclusion of unnecessary personal details, such as marital status, date of birth, or a personal photograph. Standardised CVs could also remove potential for bias surrounding the awarding institution for applicants' qualification. This may aid in reducing the Russell Group/cluster 2 university bias in ACCE recruitment,



which is likely disadvantaging groups that are less likely to attend such universities, such as Black, Pakistani, and Bangladeshi applicants (Boliver 2015b) and applicants from disadvantaged socioeconomic backgrounds (Britton et al. 2021:3-4).

CV standardisation could be facilitated by the use of a CV proforma, as used by the Oxford DTP in Environmental Research. This generates an identically formatted CV for applicants based on the information requested by standardised questions. This is also used by the Oxford DTP in Environmental Research to anonymise applications, a practice which is followed at several other NERC DTPs and CDTs (for example, London DTP, SCENARIO, and SENSE). However, full anonymisation may not be compatible with the current ACCE practice of contextualising applications for holistic assessment.

Review of application timelines

Previous research consultations have found that the timelines for applying for PhDs can seem tight, especially for current students, which may particularly disadvantage neurodiverse applicants and applicants with a Specific Learning Difference (Nottingham Research Academy 2022:5). As it stands, the ACCE recruitment timeline offers approximately three months between the release of project advertisements and the application deadline. However, this time includes the Christmas period, in which many prospective applicants will take time off and have non-work commitments, as well as the January exam period for current students. The ACCE recruitment timeline should be reviewed to determine its suitability and the potential for allowing extra time for applicants to put together their applications. Since the end of the recruitment period is determined by the NERC universal deadline, this may be best achieved by advertising projects earlier, which would subsequently require project proposal calls and sifts to be moved earlier.

The ACCE recruitment timeline should also be reviewed in relation to the time allowed for the assessment of applications. In the 2023-24 recruitment round, numerous assessors on shortlisting panels commented on having reviewed applications the night before the shortlisting meeting, including on a weekend where the meeting was scheduled on a Monday, or on the morning of the day the shortlisting meeting was scheduled. This issue was mentioned less in shortlisting meetings which had been rescheduled to a later date. The current ACCE recruitment process is set up to allow supervisors two weeks to review applications and nominate candidates, and give applicants selected for interview at least two weeks' notice of their interview date, but does not place equal importance on the time needed for assessors to appropriately review applications. The recruitment timeline should be reviewed to ensure that shortlisting panels are given enough time to review applications thoroughly and

with sufficient attention, without being forced to work during evenings or weekends. Additionally, where possible shortlisting meetings and interviews should be arranged to avoid school holiday dates and religious festivals.

Implementation of a second recruitment round

As noted above, previous research has also found that a second, later recruitment round can be beneficial for attracting applicants from more diverse backgrounds, including those from less traditional academic backgrounds, and from a more diverse range of socioeconomic backgrounds (Nottingham Researcher Academy 2022:5). Although there was insufficient EDI data from the 2023-24 second ACCE recruitment round at the University of Sheffield to determine the demographics of applicants, interviewers confirmed that there was no drop in quality in comparison to interviewees from the first recruitment round, and evidence from the proformas completed by interviewees suggested there may have been a greater proportion of applicants from disadvantaged socioeconomic backgrounds than in the first, earlier recruitment round. This second recruitment round was implemented due to a last-minute provision of additional funding for studentships. Less applications were received than for the earlier first recruitment round, but this may have been due to the much shorter time period between projects being advertised and the application deadline, caused by the late notice of funding not allowing for the organisation of a longer time period. In future recruitment years, a second recruitment round could be pre-planned to allow more time for applications, and EDI data collected as a mandatory part of the application process to empirically determine whether a second recruitment round attracted candidates from a more diverse range of backgrounds, including those underrepresented in ACCE.

Provision of feedback to all applicants

ACCE could provide feedback to all unsuccessful applicants in email communications. At present the provision of feedback is primarily left to the discretion of supervisors, but feedback could be provided to all candidates by asking supervisors to provide this in supervisor nomination forms, and including this in emails to unsuccessful candidates. The workload for supervisors could be reduced by providing a select list of common feedback options to select from.



Shortlisting

Mandatory EDI and unconscious bias training for anyone involved in the assessment of applications

EDI training should be provided for all supervisors, shortlisting panelists, and interview panels involved in the assessment of applications, particularly in the areas of unconscious bias and inclusive decision making. This could be made compulsory, with restrictions on whether a staff member can supervise and ACCE project or be part of a shortlisting or interview panel if they have not undertaken suitable training. Mandatory training for assessors has been implemented by many NERC DTPs and CDTs, including ARIES, CENTA, E4, ENVISION, London DTP, ONE Planet, SCENARIO, SENSE, SSCP, SuMMeR, and SUPER.

Prioritisation of diversity in shortlisting and interview panels

Diversity should be a high priority consideration when selecting panel members for shortlisting and interview panels. Diverse panels have the benefits of bringing together different perspectives which aid fair and inclusive decision making, and can minimise the effects of unconscious bias by assembling a panel of assessors with different biases. Additionally, candidates speaking to interviewers they can relate to in some manner may be more at ease during the interview, and may consequently find ACCE a more appealing environment in which to undertake their PhD. ACCE shortlisting and interview panels should be as diverse as possible in terms of gender, ethnicity, disability, sexual orientation, nationality, academic background (e.g. first generation academics, area of research expertise), and career stage. Caution should be taken not to disproportionately overburden panel members from underrepresented groups.

Review of which application documents are provided to assessors

Which application documents supervisors and assessors are provided with should be reviewed, to remove those which have a high potential for bias. For example, documents which contain information on the awarding institution of an applicants' degree, such as degree certificates and transcripts, have a potential for bias based on awarding institution. This disadvantages groups of applicants who are more likely to attend New (post-1992) universities and least likely to attend Russell Group universities, such as those from minority ethnicities, especially Black, Pakistani, and Bangladeshi applicants (Boliver 2015b, Williams et al. 2019:5) or disadvantaged socioeconomic backgrounds (Britton et al. 2021:3-4). Such documents may also be redundant if the information is contained in another application document, for example degree course and classification being included on the applicant's CV.

Removal of references from documents provided to assessors

An application document which has been identified as a particular source of potential bias is references. For example, Dutt et al. (2016)'s analysis of an international dataset of 1224 recommendation letters for applicants to geoscience postdoctoral fellowships found that female applicants were half as likely as male applicants to receive 'excellent' references versus 'good' references, and that both male and female referees were more likely to write 'excellent' references for male applicants, which highlighted their potential to become a scientific leader, praised ability to conduct novel research, and/or described ways in which the applicants was superior to others.

Various actions for mitigating the bias of references have been implemented by different NERC DTPs and CDTs, such as requesting that references be gender neutral, using a predefined set of questions, or anonymising references. However, the most assured means of removing potential bias from references is for supervisors and assessors not to see them in the first place. Current ACCE guidelines instruct assessors to disregard references. However, various members of shortlisting panels in the 2023-24 recruitment round made comments on the quality of applicants' references within shortlisting sessions, and despite panels reminding their members to disregard references, it is feasible that this still had an unconscious effect on decision making. Removing references from the documents seen by supervisors and assessors would remove any potential for bias here.

To ensure that any issues raised in references are still flagged within the ACCE recruitment process, references could be read by ACCE administrators when checking application documents, and only any relevant sections of references which flag an issue that may prevent the applicant from being successful be sent on to supervisors and assessors.

Interviews

Regular review of interview questions

All institutions should continue to use the same set of interview questions, which should be reviewed and updated accordingly after each recruitment round, while memories of what did and didn't work are still recent. Interviewers and interviewees could be given the option to provide their input into the review of interview questions through post-interview surveys, to collate a range of perspectives.

Sharing of interview questions in advance

In order to mitigate the effects of coaching bias, which recruitment data indicates remains prevalent in ACCE recruitment, interview questions could be shared with interviewees in advance of their interview. This has been trialled by other NERC DTPs, such as [CENTA](#), [GW4+](#), and [Panorama](#), in the 2023-24 recruitment round. Sharing interview questions in advance has been noted to have several benefits for recruiting the best candidates:

- *Reducing stress.* Sharing interview questions in advance can reduce the stress and anxiety that comes from being put on the spot in an interview. Enabling interviewees to prepare for specific questions can give interviewers a more accurate picture of what the candidate is like and their suitability for the position (Rinderknecht 2021, Grierson 2022). Stress conditions such as interviews can lead to higher heart rates and skin conductance responses and impaired decision making (Wemm & Wulfert 2017), as well as reduced memory retrieval efficiency (Wolf 2017; Wolf 2009). Thus reducing stress would aid both the wellbeing and interview performance of interviewees.
- *Reducing coaching bias.* Providing all interviewees with the questions in advance would ensure that they all have the same information, and help mitigate coaching bias between those who have the support of an advisor or supervisor familiar with PhD interview processes, and those who do not. ACCE recruitment data indicates that coaching bias may be an issue at the interview stage of recruitment, with those who noted having learnt about ACCE from an advisor or supervisor frequently being more successful at interview.
- *Improving accessibility.* Access to interview questions prior to the interview can improve accessibility for many candidates. For example, those with mental health conditions such as anxiety may experience less negative effects to their wellbeing from the interview process. Those with poor internet connectivity, more likely to be an issue for socioeconomically disadvantaged applicants (García-Escribano 2021, Montacute & Holt-White 2020:3-5) would not be disadvantaged from time taken up by being unable to hear questions read by interviewers. Interviewees with disabilities such as autism, who often experience difficulties in recalling specific memories of past experiences, especially at speed (Crane & Maras 2018), would benefit from having a written version of interview questions (Maras et al. 2020:1067) and additional time for memory recall. Some previous experiences of sharing interview questions in advance have resulted in no interviewees needing to ask for any cognitive related reasonable adjustments which could lead to conscious and unconscious bias (Grierson 2022), since this was already in effect.

- *Aiding interviewer decision making.* Less stressed interviewees are able to give more thought out and substantial responses, with reduced waffling, which can aid interviewers in making more informed decisions. Additionally, providing interview questions in advance can highlight differences between those who have taken time to carefully consider the questions and thoughtfully prepare responses, and those who have not prepared. Allowing time to prepare for specific questions can give an indication of interviewees' commitment and interest towards doing a PhD, as well as how they may work as a PhD student. Being put on the spot is not an integral part of a PhD, within which students have time to consider and test various potential solutions to problems, thus the ability to perform well under the time constraint of a few seconds is not a skill which needs to be tested for at interview.
- *Advocating the ACCE DTP.* Transparent interview processes can help a recruiter stand out among others competing for the same candidates (Rinderknecht 2021). PhD applicants are likely to have applied to PhD programmes at multiple DTPs and CDTs, and the best applicants are likely to receive multiple offers. The interview experience gives the interviewee an insight into the organisation they would be joining, thus an enjoyable and relaxed interview experience can help the interviewee gain a positive perception of ACCE. This may encourage applicants who have multiple PhD offers to choose ACCE.

In the 2023-24 recruitment round, several other NERC DTPs trialled sharing interview questions with interviewees in advance. Different methods of sharing questions were using, including sending questions directly to interviewees a week in advance of their interview, and sharing questions on the DTP website as 'example questions' to allow for deviation and follow up questions. Several DTPs which trialled sharing interview questions in advance felt that this was good practice, and will continue this practice in future recruitment rounds. Feedback from interviewers, applicants, and DTP managers was positive.



Ringfenced interviews for applicants from underrepresented groups

Ringfenced interviews could guarantee that a specified minimum proportion of interview places are filled by applicants from underrepresented groups, mitigating the current drop off of underrepresented groups at the interview stage of ACCE recruitment. This could be implemented by allowing supervisors to put forward an additional candidate who meets certain demographic criteria for a ringfenced interview place. Where supervisors are only permitted to nominate one applicant for interview, they may be incentivised to tactically nominate a more ‘traditional’ applicant who is felt more likely to be offered a studentship (Dowey et al. 2023:27). However, applicants from underrepresented groups are less likely to fulfil traditional criteria (Dowey et al. 2023:26). Allowing supervisors to nominate a second candidate for a ringfenced interview would provide greater opportunities for candidates from underrepresented groups with high potential, who may not have a traditional academic background that would aid them being selected as a supervisor’s first choice. Ringfenced studentships could also be facilitated by increasing the total number of interviews conducted.

Ringfenced interviews are offered at several other NERC DTPs and CDTs, including IAPETUS, London DTP, Panorama, and SENSE.

All interviews attended by the same person to facilitate inter-institutional consistency

Consistency in interviews across all ACCE institutions may be facilitated more effectively by one person attending interviews at every institution. In 2023-24 the presence of the ACCE EDI data analyst at interviews at all institutions allowed for observations regarding consistency to feed into the updating of recruitment documents, as well as live feedback on inconsistencies between institutions who held interviews earlier in the week of interviews to impact procedure for interviews at a different institution later in the week. Current ACCE interview procedure involves the presence of an interview chair from another institution. This person is generally also an interviewer at their own institution, thus attending the interviews at two institutions, although they are involved in decision making in one of these. This allows for some level of feedback, but not as efficiently as someone attending interviews at all institutions.



Offers

Ringfenced studentships for applicants from underrepresented groups

Ringfencing studentships may address the imbalances in who doctoral research funding is awarded to (Dowey et al. 2023:26). Allotting a select number of studentships for candidates who belong to groups underrepresented in ACCE recruitment, that is, those of a minority ethnicity, from a disadvantaged socioeconomic background, or aged 30 or over, would increase the proportion of studentships offers to applicants from such groups, and may reduce the decline in proportion of such groups across the course of the recruitment process. Ringfenced studentships are offered by a number of other NERC DTPs, such as [CENTA](#), [Panorama](#), and [SCENARIO](#). Ringfencing alone is unlikely to increase diversity enough to remove underrepresentation in ACCE recruitment where there is a lack of diversity in applicants at the application stage. Ringfencing should be used in conjunction with outreach for a long term effect, and broader advertising for a short term effect, with each of these likely to have greater impact in attracting applicants from underrepresented and historically disadvantaged groups.

Provision of offers conditional on applicants undertaking a paid bridging programme

Where an applicant shows strong potential, but is felt would benefit from additional experience or skill development before starting a PhD programme, an offer conditional on the applicant undertaking further paid 'bridging' training before the start date of their PhD would ensure they reach the necessary standard. This would benefit disadvantaged applicants who have faced barriers in undertaking what is considered to be sufficient training, for example, an applicant from a socioeconomically disadvantaged economic background for whom a master's degree may not be financially viable, but who is felt to require more experience than their undergraduate degree to be offered a studentship.



Retention

Retention Data Analysis

Analysis of retention data

Analysis of retention data would reveal whether students from particular minority groups are more likely to withdraw from an ACCE PhD programme. Previous research has found that university dropout rates are higher for certain groups, such as Black students, students from disadvantaged socioeconomic backgrounds and mature students (Petrie & Keohane 2017:15-18, 21-22, 31). Pinpointing any groups of ACCE PhD students who are more likely to withdraw from their PhD, as well as the reason given for withdrawal, would allow for ACCE to provide more targeted support and resources to its students to best support them in completing a PhD.

Student Wellbeing and Inclusivity

Regular and effective communication of available wellbeing resources to students

Information regarding wellbeing support available to ACCE students is currently available on the ACCE website, but the inclusion of links to this information on all regular communications to students, such as ACCE update emails, would allow for more effective dissemination to ACCE students. This would help ensure all students are aware of the support available to them and where to look for it, allowing students in need of support to access it sooner. Access to wellbeing support is essential for PhD students, who are six times as likely to experience depression and anxiety as compared to the general population (Evans et al. 2018), one in two of whom experiences psychological distress (Levecque et al. 2017), and of whom 42% think that developing poor mental health during a PhD is 'normal' (Hazell et al. 2021). Student wellbeing can strengthen and enrich student academic achievement, while also setting them up for lifelong success (Plakhotnik et al. 2021:2).

Targeted wellbeing support for minority groups

Minority groups may benefit from additional, targeted wellbeing support. Those from minority groups are more likely to face negative workplace experiences. For example, a survey of UK LGBTQ+ scientists revealed that almost a third had considered leaving their job due to negative workplace climate, including harassment, bullying, and exclusionary behaviour (Gibney 2019). Disabled STEM postgraduates are more likely to leave their course with no award, with the percentage leaving with no award being highest for those with a mental health condition (Joice & Tetlow 2021:14-16). A survey of UK students found that 41% had experienced sexual misconduct by staff, with women, LGBTQ+, and postgraduate students being at higher risk of staff sexual misconduct, and women

three to four times more likely to change behaviour as a result, including skipping lectures and tutorials (Gaind 2018). Marginalised populations in STEM face increased risk of anxiety and depression (Marín-Spiotta et al. 2020:120). Inequalities, negative experiences, and career limitations disproportionately affect minority groups in academia at all career stages (Casad et al. 2020; Cech & Waidzunas 2021; Bachmann & Gooch 2018; Lawrence 2021; Arday 2018; Mattheis et al. 2022; Berhe et al. 2022; Arday 2022; UCU 2016; Ysseldyk et al. 2019; The Forum 2016; Fullick et al. 2008; Sundberg et al. 2021; Berhe 2020; Lagisz et al. 2023). Additional support targeted towards specific minority groups and the common negative experiences they may face would help students have a more positive PhD experience, aiding retention both during and post-PhD.

Inclusivity at the forefront of training design

Training provided to ACCE students should be designed with inclusivity at the forefront. This should include flexibility and provisions to facilitate all students being able to attend events and receive training. For example, holding training on multiple dates, or providing recordings for those who cannot attend on the date selected would enable students with time commitments such as work or caring responsibilities to receive the same training as those without such restrictions on their time. As far as possible training dates should be arranged to avoid school holiday dates and religious festivals, as is practiced at the [ARIES DTP](#). For those with caring responsibilities provisions should be made to facilitate the attendance of training, particularly for multiple day residential events. For example, the [GW4+ DTP](#) arranges and pays for childcare and reasonable adjustments where needed, facilitated by announcing events sufficiently far in advance to allow time to arrange this, while the [ARIES DTP](#) includes the provision of accommodation space for accompanying families to attend residential events. Any financial support for carers available through individual ACCE institutions should be signposted in communications related to training events.

Earlier dissemination of information regarding training

As much information as possible should be communicated to students suitably far in advance. This should include information on dates and times, locations and physicality, and reasonable adjustment requests. Communicating such information to students as far in advance as possible allows a longer time for students to plan their lives and PhD work around training dates. This would benefit not just those with commitments such as work or caring responsibilities, but all students. To facilitate the earlier dissemination of information, training should be planned and booked further in advance. This would also have the benefit of increased availability options from training providers, which may reduce workload for ACCE management by reducing the necessity of sourcing another training provider if the preferred provider is fully booked. If training were

scheduled in advance of each academic year, a schedule of the year's compulsory training events could be provided to students at the beginning of each year, or at each new student's start date. This would allow students to appropriately plan their time, and would increase uptake.

Prioritisation of inclusivity and wellbeing for fieldwork, placements, and research lab visits

Inclusivity should be promoted within ACCE institutions and when students are away on fieldwork, placements, and research lab visits, with the goal of protecting students from bullying, harassment, and discrimination. Addressing conditions that create hostile workplace environments are more likely to facilitate a long term impact of work to broaden participation and diversity (Marín-Spiotta et al. 2020:118). One method by which this could be achieved within ACCE institutions is through the inclusion of a bullying and harassment policy with sanctions as part of the training grant (NERC 2021a:8) written into the DTP3 application. Provisions should also be made to protect students away from their home institutions, for example on fieldwork, placements, or research lab visits. Negative experiences in fieldwork can lead to career stalling, lateral career moves, or leaving a career path altogether (Nelson et al. 2017:715). Minority groups are also likely to be more affected. For example, disabled students can face numerous additional physical and psychological barriers (Gilley et al. 2015:579; Stokes et al. 2019:1809-1811; John & Khan 2018), while women are disproportionately more likely to experience sexual harassment or sexual assault in the field than men, with 71% of female respondents to a survey having being subject to sexual harassment and 26% subject to sexual assault in fieldwork (Clancy et al. 2014:5). Any fieldwork or placement provider for an ACCE student should be required to commit to a standard of safety and code of conduct, for example within the placement form that placement providers sign. How to report any issues while working away from their home institution should be clearly and regularly communicated to students working away.

Career Support

Provision of additional career support, with ringfenced placed for minority groups

Students from minority and disadvantaged groups are more likely to face barriers in post-PhD academic careers. Disabled, minority ethnic, and female staff are more likely to be paid less; more likely to be on a fixed term contract; underrepresented in higher contract levels; less likely to be in professorial or senior management roles; and more likely to leave their position (AdvanceHE 2022). Additional career support would aid towards students leaving ACCE feeling supported and prepared for their next career steps.

Support for students in building a track record could increase representation in environmental science (NERC 2021a:8). ACCE DTP1 featured a publication extension scheme, which supported final year ACCE students in preparing and submitting high quality manuscripts for publication. This scheme was not continued into ACCE DTP2, however there have been enquiries from students regarding the provision of such funding. Reinstating this scheme as part of the ACCE DTP3 application, with lessons learnt from the DTP1 scheme, would allow students to build up their publication record, allowing them to develop a research profile and become stronger candidates for academic jobs. To target support to underrepresented groups, a given proportion of this funding could be ringfenced for groups which are evidenced to experience barriers in post-PhD careers.

Additional support in producing publications would benefit ACCE students who are non-native English speakers. Non-native English speakers in environmental sciences face a number of disadvantages in producing English language research. Early career non-native English speakers require more time to read papers in English, need more time to write a paper in English, are 2.5 to 2.6 times more likely to have a journal article rejected due to English language, and are 12.5 times more likely to be requested to improve their English writing during journal article revisions than native English speakers (Amano et al. 2023:3-5). A concerted institutional and societal effort is needed to minimise these disadvantages, and enable non-native English speakers to make greater contributions to environmental science (Amano et al. 2023:10-11). English speaking ACCE students may thus benefit from additional training in the academic English language used in publications such as journal articles. This may also be beneficial to some native English speaking students. Where such training is already provided by individual ACCE institutions, this should be regularly signposted to students, and supervisors should be encouraged to recommend this to their students where they feel it would be beneficial. Additionally, academic English language training for non-native English speakers could be incorporated into existing ACCE training such as writing retreats.

Collation and publication of destination data and case studies from ACCE graduates

Keeping in touch with ACCE graduates would allow for continued support post-PhD. Opt-in ACCE update emails for alumni could provide information such as updates on ACCE activities, job opportunities, and opportunities to get involved with ACCE as a graduate such as through partnerships. Keeping in touch with graduates could also be used to gather DTP specific destination data and case studies. This could be publicised on the ACCE website and ACCE social media to enhance the appeal of completing a PhD with ACCE for prospective applicants. ACCE graduates could be given the opportunity to opt-in to alumni emails through

a congratulatory email on or around their graduation day, which also asks for an email address to keep in touch.



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