

NERC-funded ringfenced internship delivery - 2022

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EXECUTIVE SUMMARY

In autumn 2021 British Antarctic Survey (BAS) received funding from the Natural Environment Research Council (NERC) to create a cohort-based internship programme ringfenced for early career researchers from underrepresented groups, enabling them to gain experience working within Polar Science as well as build professional networks. The programme intended to address the lack of diversity in UK Polar Science that is perpetuated by conventional organisational thinking and systemic bias. The vision behind the activity was to unlock career developments for a cohort of interns in an empowered & informed workplace that values and encourages diverse perspectives from the individual to systems level. This internship programme is part of a wide range of activities that work towards realising this vision for BAS and the whole UK Polar Science community.

Key outcomes of the programme:

- A total of 16 internships were delivered
- The cohort experience was emphasised by participants as a success factor of the programme
- 4 interns received further employment opportunities directly through BAS
- 3 interns have been accepted to PhD positions and attribute part of their success to the internship opportunity
- 1 person reports that the internship has helped them “land their dream job” thanks to relevant skills development
- 1 person got insight into academic work and saw that it is not the right career path for them
- 3 internships produced publications and 5 conference presentations
- 10 interns are continuing to work on publications with their supervisors and several are looking for ways of pursuing an academic career
- Supervisors reported that the internships challenged their traditional ways of working and supervising

Key insights and recommendations:

- Internship programmes should be part of a portfolio of inclusion activities
- Creating a cohort experience is essential: reducing impact on line-manager; increasing sense of belonging; increasing retention
- Dedicated resource (funding and staff time) is needed to ensure successful delivery
- Support should be provided to the supervisors as well as the interns; this is a good chance for early career researchers to gain supervisory experience
- Reflection on the project and lessons learnt should feed into refinement of wider organisational aims to accelerate organisational change
- Bespoke inclusion training is needed to increase understanding about systemic barriers that people from minorities face

The internship programme has helped BAS to take further concrete steps towards realising its ambitions for inclusivity. In order to deliver change at organisational level, it is essential to build on this experience and continue to look for ways of providing opportunities and challenging conventional thinking. We look forward to running this programme again.



Outline:

1. Introduction
2. Background & mission
3. Delivery
4. Impact evaluation
5. Insights & recommendations

Appendix:

1. DiPSI projects 2019-2021
2. Statistics on applicants & successful interns; Internship project list
3. Impact evaluation survey questions

1. INTRODUCTION

The British Antarctic Survey (BAS) as an organisation has a particular history starting after the era of heroic exploration, which mostly saw unmarried, young, white, physically fit men going on expeditions to “the frozen continent”. It was not until the 1980s that the first British female scientists began working in Antarctica. While this has undoubtedly left an imprint on the organisation, a lot has changed culturally and structurally and people have evolved their thinking. A recent turning point in the BAS journey towards being a more inclusive organisation was the founding of the Diversity in UK Polar Science Initiative (DiPSI) in September 2019. The initiative, funded for its first two years by the Foreign, Commonwealth and Development Office (FCDO) brings together individuals across the Polar Research community, NERC and UKRI, enabling building a structured approach to understand the challenge, and take action. BAS as an organisation is heavily involved in the community, since it provides the logistical and operational infrastructure for all UK polar science. [The first stage report of the Diversity in UK Polar Science Initiative 2019-2021 is available via this link, giving a full overview of the initiative’s activities.](#)

In the early stages of the initiative, data baselining by research analyst Donna Frater showed that key areas of underrepresentation in the Polar community in comparison with UK society are from racial and ethnic minorities, people with disabilities and people from the LGBTQIA+ community. In addition, this lack of representation to some degree is underpinned by systemic challenges in socio-economic backgrounds.

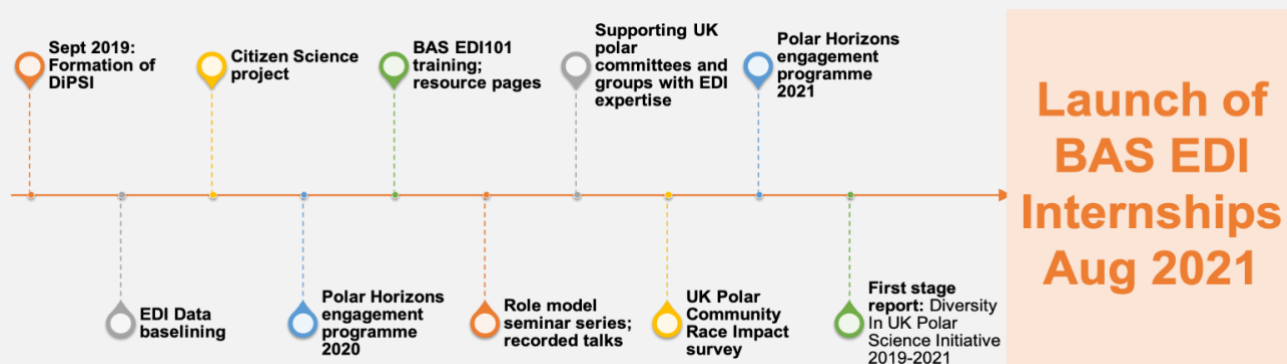
These EDI internships hosted by BAS are a continuum of the activities organised through the DiPSI steering group to deliver a more inclusive future for UK polar science, and address underrepresentation as mentioned above.

This report outlines the successes and insights gained from the NERC-funded EDI internship programme. We want to paint a picture of the long-term investment of time and resources to support inclusion and propel progress within the UK Polar Community. These internships are ‘the tip of the iceberg’ built on the efforts started in September 2019. In this report we want to highlight our long-term ambitions, how those have been supported by this internship programme, and what work remains. We also outline key insights into what worked well and what could be done differently in the future.

2. BACKGROUND & MISSION

The Polar Horizons programmes in 2020 and 2021 were cohort-based introductory mentoring programmes matching students and early career researchers from STEM backgrounds with established polar researchers. Both programmes were resounding successes with engagement of over 150 UK students from underrepresented groups who were introduced to polar research. The internship programme aims to further address a lack of diversity in UK Polar Science that is perpetuated by conventional organisational thinking and systemic bias. One set of internships alone is not a solution to the bigger problem, but persistent investment in the next generation of polar scientists and creation of an open dialogue and space for learning is needed to gradually tackle the bigger challenges.

The below timeline outlines the activities that have gradually enabled us to build a path to successfully delivering the BAS EDI internships. Our mission was to create a cohort-based internship programme that enables early career researchers from underrepresented groups to gain knowledge and experience working within Polar Science and build their own networks.



If you'd like to read more about each project, please navigate to appendix 1.

Our vision is to unlock career developments for a cohort of interns in an empowered and informed workplace that values and encourages diverse perspectives from the individual to system level.

In order to support the delivery of our mission and vision we set out the following project objectives:

1. Increase not only representation but sense of belonging in the research environment through the cohort experience
2. Developing & progressing excellent science by; unlocking new science from existing data, samples and models; using a diverse range of perspectives & divergent thinking; increasing internal diversity in thinking; bringing new perspectives into team thinking
3. Enable career development & opportunities for interns
4. Offer specific skills development: Creative Tuition cohort programme & project specific learning
5. Challenge conventional ways of working; Accommodating reasonable adjustments
6. Challenge BAS organisational & individual conventional thinking; Learning as a collective and unlocking cultural change at BAS

3. DELIVERY

Geraldine Hough, she/her, Project Officer, Equality and Diversity and HR

Pilvi Muschitiello, they/them, Impact Facilitator

Creative Tuition
Innovative & Inclusive Education

The BAS project team consisted of Project Officer for Equality and Diversity and HR, Geraldine Hough, and Impact Facilitator, Pilvi Muschitiello, with support from other colleagues where and when possible. The delivery of the internships of course required the contribution of supervisors for each of the projects. In some cases the interns were supervised within teams. In addition, skills training was delivered by a team from Creative Tuition Collective, an educational charity invested in innovative and inclusive approaches.

Key delivery aims:

1. Attracting a diverse pool of candidates
2. Building a cohort-based experience to enhance sense of belonging
3. Developing new meaningful work and outputs that build upon existing data and processes
4. Positive cultural change through active learning and open dialogue within the Polar Science community
5. Partnering with experts to deliver transferrable skills training that enables personal and career development
3. Planning career & personal development training with Creative Tuition
4. Application period
5. Interviewing & HR on-boarding process
6. Onboarding new-starters; guidance for supervisors
7. Ongoing support for interns; social meetups (online); creating avenues for feedback
8. Organising visits & in-person working periods at BAS for remote workers
9. Reviewing potential project extensions. Following employee exit processes & return of laptops.

Project timeline – Aug '21-Mar '22:

1. Sourcing projects across BAS
2. Setting up application process & advertising

10. Building a case study for cohort-based internships; communication of outputs & benefits

4. IMPACT EVALUATION

In this section we evaluate impact against each of our project objectives. The data used for this evaluation was gathered through separate surveys for both the interns and their supervisors. The survey questions can be found in Appendix 4. We had 100% response rate for the supervisors, and 75% response rate for the interns.

1. Objective: Increase not only representation but sense of belonging in the research environment through the cohort experience

When asked how much they feel part of a team 90% of the interns expressed that they felt extremely involved and valued not just within their project teams' but also within the cohort of interns. Respondents indicated that this sense of cohesion was developed through weekly meetings with supervisors and lab mates, informal events with the cohort programme and the support of mentors who provided opportunities to contribute to the team outside of individual project scopes. While numerous interns stated that they felt included and part of the team despite home working, one of the interns clearly states that working from home and being away from Cambridge made them feel less part of the organisation. This suggests that with the right kind of support it is possible to build that cohesion, but that there was also room for improvement, and one solution might not fit all.

The importance of the cohort scheme shines through when asked what the intern enjoyed most about their internships. All responses echo the themes of meeting colleagues and interns in many different fields; intellectually stimulating seminars; the team meetings and socials; visiting BAS's Cambridge site; gaining experience in a new field outside of their expertise; and experiencing BAS culture and working environment.

"I think the most enjoyable part was being part of this incredible research organisation that I've always been inspired by, and the feeling of being part of a "cohort" with my fellow interns."

36.4% of intern respondents agreed and the remaining 63.6% strongly agreed that their internship was a positive experience; 27.3% agreed and the remaining 72.7% strongly agreed that the internship was useful. 100% went on to add that the internship was worthwhile and that it was not only just an enjoyable experience, but it equipped them with great skills for their careers.

“Before doing the internship the toxic work attitudes I had experienced at other institutions had convinced me that academia was not for me. This internship has transformed that view. Staff at BAS are treated so well, have healthier work-life balances, and are overall far more inclusive than I have experienced before. I feel far more confident in my own abilities and my place in academia. I am now looking to apply for a PhD in the coming year.”

2. Objective: Developing & progressing excellent science by; unlocking new science from existing data, samples and models; using a diverse range of perspectives & divergent thinking; Increase internal diversity in thinking; bringing new perspectives into team thinking

One of BAS’s Innovation & Impact strategic aims is unlocking new science by making the most of existing data, samples and models, with the aim of avoiding creation of new financial and environmental burdens by collecting more samples or data in areas where we have existing resources. This priority is synergistic with both BAS Science and Operations Strategies and therefore this aim has been highlighted in one of the objectives for the internship delivery. Due to Covid and timescales none of the projects involved fieldwork, but were based on existing data and samples¹. Successful inclusion work also supports the above-mentioned strategic delivery, as involving a diverse range of perspectives can unlock new outcomes and develop unexplored science.

Our survey data highlights the mutual feeling from both supervisors and interns that the work has been valued and worthwhile. This positive collaboration supports the assumption that the input from our diverse cohort of interns has been developed into meaningful new work. Several interns commented on the high importance of their projects and the roles they played in progressing and developing projects. One intern stated that they “have been able to contribute to scientific discovery” with another noting that through their work they “have recovered data that will be important for science for years to come”. The feeling on being valued at work is linked to better physical and mental health, as well as higher levels of engagement, satisfaction, and motivation²: all the things that lead to a healthy and productive relationship between employer and employee. The data shows that the interns made meaningful contributions, which is positive evidence that backs the influence of their diverse perspectives in the creation of new work. As one supervisor put it, “the more diverse a range of people you work with, the more examples and experiences you have that you can pull from”.

3. Objective: Offer specific skills development: Creative Tuition cohort programme & project specific learning

The cohort programme gave the interns the opportunity to gain academic and practical skills, whilst expanding their networks in an environment that was focused on training and developing them as individuals and professionals. 100% of respondents reported learning new skills during their internship, including how to apply theory and how to function in a professional environment. The cohort have experienced the development of a large range of professional skills whilst operating as BAS employees.

The following have been identified as honed skills by the interns:

- Expanding technical laboratory specific skillset, through working with new programmes, operating scientific instruments, attention to detail, the opportunity to apply techniques to problems
- Writing publications, including scientific papers and journals
- Excel
- Using own lived experience to drive change and influence policy
- Taking ownership of projects
- Presentation skills
- Gaining knowledge and insight into a professional workplace
- Poster creation
- Time management

¹ One of the HR projects collected new data through surveying individuals

² <https://www.apa.org/news/press/releases/2012/03/well-being>

In addition to the support from our internal experts, the interns received training sessions from our long-term collaborators, a charitable organisation called [Creative Tuition Collective](#) whose aim is to provide innovative and inclusive education. The Creative Tuition sessions were not mandated, and thus not attended by all the interns. Those who did attend shared positive feedback, with one intern describing how “the opportunities to be involved in the Creative Tuition session have allowed [them] to learn a lot more than [they] thought about the practical side of a career in science; whether presentation skills, mental health, or other interesting topics”.

4. Objective: Enable career development & opportunities for interns

As previously mentioned, 100% of respondents reported learning new skills during their internship. The invaluable expansion of the interns’ skill sets, networks and both personal and professional development has placed the interns in good stead moving forwards in their careers. As shown in figure 1 on the right, 82% of intern respondents expressed that the internships enabled career development, the reoccurring theme throughout the responses was that the internships had increased individuals’ confidence and credibility when applying for future roles or PhDs. One intern stated, “[the internship] has helped me land my dream job!” with another expressing that the internship was “one of the most career-defining projects [they] have participated in”. One invaluable career development aspect offered by the internship is purely testing out whether the interns enjoy the research environment.

Figure 1: Has the internship enabled career development?



Figure 2: Have BAS offered further opportunities or employment to the intern(s)?



As illustrated in figure 2 on the left, BAS have already offered further opportunities or employment for some interns on the scheme. Those who have not been offered specific opportunities have received support from their supervisors towards finding the right next step for them. One supervisor acknowledged that their “intern is keen to stay in academia and the two papers with [their] name on will help future employment opportunities”. Other supervisors noted that they have supported their interns in applying to PhD positions and DTP projects. One of our interns was accepted to all three PhD projects applied to and attributes part of this success to the confidence and credibility built via the internship.

5. Objective: Challenging conventional ways of working (supervisors); accommodating reasonable adjustments

Due to the COVID-19 pandemic the working landscape of BAS changed, with most staff being required to work from home with limited access to BAS labs and facilities. This meant that in principle the internships were to be delivered online. The short delivery time due to funding timelines also made it challenging for interns to consider moving to Cambridge. While supervisors were navigating their own work structures, they had to adapt quickly to support their interns through the changing environment. The introduction of home working had some particularly positive EDI outcomes by challenging the conventional ways in which lab work can be carried out and increased the breadth of knowledge for supervisors on the unconventional techniques that can accommodate reasonable adjustments.

All the interns commented positively on most internship projects being designed to be completed remotely, but the majority stated they would have preferred to visit the Cambridge site more often to get the full BAS experience and harbour spontaneous discussion and socialising with other interns and staff. Unfortunately, this was not possible for all interns due to the nature of their projects, some personal circumstances and government restrictions. Those who visited the site mentioned that the “COVID restrictions still kept total

numbers low in the building, thus the experience was not quite the same as it would have been before the pandemic". However, some supervisors conversely stated that working remotely meant they spent more time via virtual meetings with their interns than they otherwise would have in the office. One stated they "spent more time online with my intern than I would usually do with MSc and PhD students and it felt much more like I was working jointly with someone on a project rather than telling someone what to do". One of the interns echoes this statement saying that "having a virtual presence helped [them] interact with everyone at BAS in a better and more positive way".

Despite the difficulties posed by the pandemic, BAS supervisors amended their traditional ways of working and teaching to accommodate the new hybrid world, and worked with colleagues to provide the best support for their interns. As labs were under number and distancing restrictions, technology was utilised, and camera attachments were attached to equipment such as stereo microscopes to enable the capability to broadcast the imagery on laptop screens for training and explanatory purposes. It was noted that wearing a mask whilst working on microscopes is not easy, so this reasonable adjustment is two-fold to assist those undertaking the experiment, but also those without access to the lab.

One supervisor noted that they spend much more time developing the workflow remotely than originally anticipated, which had a positive impact on the project as it meant that the project was well developed, planned and thought through, with greater input from a diverse range of individuals, this resulted in a successful, efficient project.

The greatest positive EDI outcomes came to interns who declared having a disability, the remote nature of these internships allowed the interns to still participate when systemic barriers, such as described in the quote below, traditionally exclude participation. One intern completed their internship in the peak of omicron cases whilst being required to stay at home due to their vulnerable status attributed to their disability. They were grateful that adjustments were put in place to enable them to work from home and be allowed flexible hours to manage their energy levels.

"The internship is one of the few positions I have found within Earth science that has been accommodating to my health issues and did not require a PhD or an excessive amount of experience outside of university work."

Another positive outcome was that one internship was a remote job share to accommodate studying alongside working, as well as accessibility. This unique opportunity enabled flexibility for the participants and in turn offered an opportunity for BAS to challenge conventional ways of working and create a more inclusive environment. As we look towards the end of the pandemic, there are emerging opportunities to embrace this new way of working long-term. By providing reasonable adjustment BAS can improve equality, diversity, and inclusion in the organisation by creating opportunities for those who may have otherwise been excluded from participating.

6. Objective: Challenge BAS organisational & individual conventional thinking; Learning as a collective and unlocking cultural change at BAS

The internship cohort has been an important step forward to promote Antarctic science opportunities to underrepresented groups, including women, people from ethnic minorities, LGBTQ+ community and people with a disability. In addition, it has been an opportunity for us as an organisation and individuals to explore and break down existing bias.

Over half of supervisors acknowledged having learnt how to better manage and support EDI students in the organisations, having had very little experience on this previously. Many of them recognise the importance of striking a balance between project delivery and creating an inclusive environment in which the interns can bring their whole self to work, leading to enhancing creative thinking, performance, and social connections. The

feeling that we are recognised for our achievements and valued as individuals is vital in all aspects of life and the place of work is no exception. A strong sense of belonging encourages employees to excel in their roles and connect with the organisation—a message that is delivered to all BAS staff through bespoke inclusion training.

Many supervisors acknowledge they are still finding that balance and are personally learning and growing, but the internship experience has shifted their conventional ways of working and supervising. One supervisor added that “*watching [their] intern manage their disability probably brought about a more empathetic, patient and understanding side to [them]*”. Another attributed the incompleteness of their intern’s scientific outputs to medical induced delays, nonetheless recognising that they experienced a personally positive outcome as a supervisor and teacher. Some supervisors noted that interns had more than the usual levels of motivation, dedication and willingness to work hard, learn and go the extra mile. This observation is consistent with research showing that individuals from minority groups feel added systemic pressure to prove their abilities to colleagues and themselves. The psychological phenomenon is known as stereotype threat (Murphy, Steele, & Gross, 2011). One supervisor acknowledged that this burden should not be held by the intern, but it is on strong leadership to be the catalyst to harbour equity and inclusion, adding that “it is hugely rewarding to be able to offer this opportunity to someone who may not otherwise get one”.

The supervisors were consistently supportive of the interns and had the desire to show them equal respect, emphasising the importance of treating everyone the same regardless of their protected characteristics. However, while there has been great support for this programme and the individuals involved, the survey data underlines a theme around judging people on their character and ability to do the job first, along their diverse background. This implies that the challenge remains to explain and acknowledge that prevailing lack of diversity in polar research results to a degree from the structural and systemic bias and outdated policies and processes—Evidence to why we need ringfenced, intentionally inclusive programmes that build on the cohort experience.

5. INSIGHTS & RECOMMENDATIONS

The below section offers some insights and recommendations from the point of view of the project team.

Challenges

- Relatively short timeframe to prepare programme delivery due to funding timelines
- Lack of resource (staff time) across the organisation to support programme delivery; undue pressure on specific individuals
- Offering flexibility for interns in project start times extended the application & appointment period delaying communication with applicants
- Emphasis on supporting the interns meant that support for the supervisors was sporadic in comparison; this created a challenge in systematically integrating the interns to their wider teams and the organisation as we had not agreed on a unified structure or milestones

Successes

- All interns finished their internship projects
- Experience from Polar Horizons 2020 and 2021 was key to efficient set-up of application process and advertising to existing networks and building on the cohort experience; hence utilising existing resources & building on past experience
- We had a few occasions where we didn’t get things right, but we had the right knowledge to deal with those challenging situations. Ensuring that expertise for conflict resolution & mediation is available and utilised is essential, and in our case was successful

- Having a diverse project team from across the organisation & partnering with Creative Tuition who brought added diversity to our delivery team
- Ringfenced funding that reaches the target demographics

Recommendations

- A list of projects ready to go
- A guide for managers on shortlisting and interviewing diverse candidates
- Dedicated time resource for recruitment & onboarding process;
- Dedicated resource for support: While the feedback on support was good, it created a challenging workload to the project team; more resource and capacity is needed to focus efforts & maintain a better level of communication throughout the lifespan of the project
- Proactive support for supervisors managing interns

Reflections

Cultural change is the process in which an organisation encourages employees to adopt behaviours and mindsets that are consistent with the organisation's values and goals. Successful cultural change initiatives are often gradual and must be done at a sustainable pace so that employees can acclimate and adjust to the change without becoming disengaged. The internship programme aims to further address a lack of diversity in UK Polar Science that is perpetuated by conventional organisational thinking and systemic bias. One set of internships alone is not a solution to the bigger problem. Enduring investment in the next generation of polar scientists and creation of an open dialogue and space for learning is needed to gradually tackle the bigger challenges, to create an empowered and informed workplace that values and encourages diverse perspectives from the individual to system level.

Appendix 1 – DiPSI projects 2019-2021

September 2019: Formation of Diversity in UK Polar Science Initiative	Bringing together a <u>steering committee</u> with representatives across different areas of the Polar Science and EDI community
<u>EDI data baselining</u>	Helping us understand how the Polar Science community represents the UK population and how to concentrate our work
<u>Citizen Science project</u>	A cohort-based Citizen Science project counting seals from space. Watch this video of Prem Gill talk about the science.
Polar Horizons engagement programme 2020	A cohort mentoring programme to increase sense of belonging and creation of new networks for the next generation of Polar Researchers
<u>BAS EDI101 Training; creation of resource pages</u>	Training programme to ignite learning to support inclusive behaviours; created by staff for staff.
<u>Role model seminar series; recorded talks</u>	A seminar series highlighting existing diversity and increasing representation beyond conventional or stereotypical stories/voices.
Supporting UK polar committees and groups with EDI expertise	Open dialogue with groups across the UK polar community for knowledge exchange; e.g. delivery of EDI101 training.
<u>UK Polar Community Race Impact survey & report</u>	A tool to help demonstrate and understand the current issues and collate future actions that can help improve racial diversity in polar research; action e.g. adoption of anonymous reporting tool.
<u>Polar Horizons engagement programme 2021</u>	Second round of cohort mentoring programme; expanded beyond the British Antarctic Survey, which meant that students were matched across UK HE institutes; full online delivery. Polar Horizons report 2021.
<u>First stage report: Diversity in UK Polar Science Initiative 2019-2021</u>	A collation and evaluation of the activities and lessons learnt from the first stage of the initiative.
<u>BAS EDI internships</u>	

Appendix 2 – Statistics

- 17 projects initially; 15 projects found the right candidate; one job share; 16 interns in total
- Number of applicants: 134
- Number of successful candidates: 16
- Diverse representation across different underrepresented groups: 43% of appointees have a disability, 43% of appointees come from racial or ethnic minorities, 50% of appointees are part of the LGBTQ+ community; ie applicants displayed a high degree of intersectionality
- 10 of the interns worked remotely, with some visits to BAS; 6 interns worked full time from the office.

Appendix 3 – Impact evaluation form questions

