Northern Bridge Consortium
Collaborative Doctoral Awards
Competition (Staff-led)

NORTHERN BR—DGE
CONSORTIUM DOCTORAL TRAINING PARTNERSHIP

Project Proposal Application
To be completed by the lead proposed supervisor,
with input from the non-HE Partner Organisation(s).

UKRI | Arts and Humanities Research Council

SECTION 1: PROJECT SUMMARY AND APPLICANT DETAILS	
Proposed Project Title:	Developing inclusive models of sustainable engagement with protected cultural and natural heritage through socially engaged artmaking with multisensory (XR) technologies and open data.
Project Summary: *(Maximum 100 words)*	A collaboration with University of Sunderland and National Trust, this practice-based project researches sustainable tourism, natural heritage & biodiversity in the context of the Inner and Outer Farne Islands. Using the methods of socially engaged art practice, embodied experiences and immersive, multisensory (XR) technologies, this project investigates the role of digital and creative approaches in reimagining sustainable and inclusive futures for tourism. Inclusive engagement and audience development models will be co-created with the island residents (both human and non-human), stakeholders and visitors to the island network while supporting marine conservation efforts and widening access to diverse communities.
Host University:	University of Sunderland

Name of Non-HE Partner Organisation(s): *(Add more lines if needed)*
1. National Trust
2.

Contact(s) at Non-HE Partner Organisation(s): *(Add more lines if needed)*			
Name:	Andrew Poad	Email:	
Name:	Laura Knowles	Email:	

Primary AHRC Subject Area: *Select one subject area from the list here. Please do not add or amend subjects, as there will not be a corresponding Subject Area Review Panel to assess your nomination.*	Digital Arts: History, Theory and Practice
Does the project include a Creative Practice component?	YES ☒ NO ☐
Do you consider the project to be interdisciplinary?	YES ☒ NO ☐

If you consider the project to be interdisciplinary, please state why: *(Maximum 100 words. Please note that your application will be assessed by the relevant primary AHRC subject area review panel. However, in this space you should indicate which other subject areas your proposal covers and how your methodology is genuinely interdisciplinary.)*

This collaborative PhD creative practice research proposal explores the interface between socially engaged art, immersive and gaming technologies, and open data to investigate methods of audience engagement with the inner and outer Farne Islands and its wider environment, including the historic site of the Holy Island of Lindisfarne. As such we will work across the following disciplines arts, culture, sustainable tourism, open data and XR technology.

SECTION 2: PROJECT PROPOSAL AND CASE FOR SUPPORT

Please provide full details of the proposal and make your case for support below:
(Maximum 750 words)

To tackle urgent and critical decline of our natural marine heritage and biodiversity, a global network of agencies and organisations are seeking to better manage and regulate our seas and coasts to ensure balance between increased economic development and the protection and enhancement of the marine environment (UK Marine Management Organisation).

There is rising interest in the role of immersive, multisensory (XR) technologies in cultural and heritage turism (Jingjing Li et al, 2023). XR provides emotionally driven visitor experiences (Mayuree & Khan, 2024), raises environmental awareness, and reduces anthropogenic pressures (Vasyuta, E. et al. (2024) by promoting responsible travel at natural heritage sites (Anam Fatma et al, 2024). Evidence that engagement with the arts in heritage sites can support audience development agendas (Burton, 2017-20) has primarily been focused upon artists' engagement with (paid for) built heritage properties (Farley & Pollock, 2022). In collaboration with National Trust (NT) this research will address an urgent gap in understanding how *socially engaged* artmaking *with* XR technologies can develop sustainable (WCED, 1987) and inclusive models of tourism.

The cluster of 28 Farne Islands (FI) has been in the ownership of the NT for 99 years. Thousands of visitors travel to the islands annually to experience the marine wildlife and learn more about the cultural heritage of Saint Cuthbert (634 AD). Taking NT's "Future Farnes" strategy as a starting point, the project will work with the FI network to 1) enhance visitor management practices that help extend the tourism season of one of its most unique and challenging properties to a year-round offer 2) amplify cultural heritage that connects these islands and 3) offer models that help safeguard the sustainability of the islands' natural biodiversity, ensuring the NT visitor offer better reflects the multi-species communities they serve.

This project will draw connections between the islands' cultural and natural ecosystems from a "digital creative placemaking" perspective (The Stove Network, 2022 & McKinnon, C., Schrag, A., 2020). Inclusive and embodied XR art experiences will be co-created with biodiversity and marine wildlife open data, residents of Lindisfarne, socio-economically and culturally diverse mainland communities and distributed audiences online, advancing understanding of expanded "community" (Buragohain, D., Meng, Y., Deng, C. et al., 2024) engagement.

The student will be partly based in Lindisfarne Castle located on Holy Island, and will focus on the following research questions:

- How might socially engaged artmaking with XR promote inclusive access to remote natural and cultural heritage destinations of international significance?
- What role can immersive XR art experiences play in safeguarding the sustainability of the island network's natural biodiversity?
- What new models of sharing and hybrid exhibition making can amplify cultural and natural heritage that connects the Farne Islands to local and international visitor's and audiences?

The project builds upon current practice-led research at Sunderland exploring how socially engaged artmaking can enhance coastal communities' understanding of, and connection to, their maritime heritage (O'Hara, S, SeaScapes CoLab, 2021 – 2023). Working collaboratively with the NT: Northumberland Coast & Hadrian's Wall Country team, the student will:
- Drive inclusive audience development, by engaging diverse socio-economic audiences that traditionally do not visit NT sites.
- Use a co-creation model to create data informed, embodied, digitally immersive experiences of the FI and their natural environment to drive sustainable tourism.
- Promote the natural biodiversity of the islands by co-creating artworks that test ways to combine human and non-human perspectives.

Methodology
The research will employ a multi-methods approach, informed by and through practice (Gray and Malins 2004; Barrett 2010), drawing from the principles of embodied research methods (Thanem, Knights, 2019). The project will adopt the Action Research experiential model followed by "reflective practitioners" (Schön, 1983) and use grounded theory methodologies to work with ideas/concepts that "emerge" from co-generated data. (Charmaz, K., 2014).

A contextual review will be conducted, and case studies identified in the disciplines of new media (immersive, process-based and networked), socially engaged/participatory art, public engagement and (digital) heritage research. This research will leverage a range of artistic approaches, (XR technologies with durational processes, sculpture and performance) through iterative, practice led enquiry cycles involving physical and digital focus groups, discussions, events and exhibitions) for public dissemination.

Outcomes
The outcomes of the research will include a dissertation and a body of new works (content, artworks, experiences, exhibitions). Contributions will be made to the development of a more inclusive and accessible community engagement strategy for FI digital engagement offer, will feed into national NT audience development policy targeting geographic areas of scientific interest and contribute new knowledge to its national research activities.

Provide details of any resources and facilities, including equipment, fieldwork, training, etc., that will be required to complete the project successfully. <u>NBC has limited Research Training Support Grant funding, which may affect the feasibility of high-cost projects</u>. Please note where you might also secure additional funding, (e.g. partner organisations; department or school). Include estimated costs:
(Maximum 200 words)

This project will have access to cross-faculty resources; fine art workshop facilities, digital fabrication resources, XR and immersive software and equipment, industry standard digital imaging and media production equipment, a fully equipped Virtual Reality R&D Lab, Igloo 360-degree Data Visualisation site and a newly established Market Research Lab. All of these are available in the university's specialist facilities with dedicated technical support.

The researcher will benefit from a workstation with computer and access to printing facilities in the Research Hub and the University's doctoral development programme with rich VLE content, online/in person sessions, and one-to-one surgeries as well as specialist training in Art and Design practice-based research methods by Prof Alex Moschovi and participatory media by Prof Caroline Mitchell delivered in the School of Media and Creative Industries.

They will further benefit from a hot desk in Lindisfarne Castle, extended access and online/on - site induction to the NT's curatorial and community engagement teams, archives and displays by NT Farne and Holy Island staff. If needed, funds for any additional national travel and conference attendance will be sought from NBCDTP grants and external resources, for example the National Trust.

Outline the arrangements for communication between the non-HE partner organisation and the academic host institution in regard to project management and monitoring academic progress:
(Maximum 200 words)

The student will have monthly academic supervisions (O'Hara/ Jiang) and full supervisor/designated advisors (Poad/ Weileder) meetings every three months which will take place at University of Sunderland. Poad will provide an induction to the NT policy and management of local engagement plans, archives and curatorial/engagement strategies for the Farne Islands.

Milestones for the project will be set at the start and the student's progress will be monitored through the regular meetings, formal academic reviews (annual monitoring and progression) and at agreed points within the research. The supervisory team will be responsible for monitoring the research at PhD level and NT will provide training, support and professional development required to complete the research project.

The student will feed into NT research priorities through quarterly reporting, so the project has potential to inform service development from the onset. The supervisory team will use an online system (e-vision) to record meetings, set research goals and outcomes and support communication and planning. Supervision and attendance are regularly reviewed by the Faculty Postgraduate Research Student Sub Committee.

What benefits will there be for the candidate and the non-HE partner organisation as a result of your collaboration?
(Maximum 200 words)

Benefit for the Candidate
- Real world research experience that directly informs audience development, natural capital management strategy for Farne Islands, potentially impacting national policy within NT.
- Unique access to meetings and networking events with NT research network, developing potential future avenues for work or research.
- Being encouraged to present research outcomes in world leading academic platforms (e.g. Journal of Cultural Heritage Management and Sustainable Development) to further the enhancement of future career opportunities.
- Lead arts-led interventions and exhibition activity and a range of experimental research-led public engagement activities.
- Developing international research networks and leadership skills by participating in PGR and wider seminar series at UoS.
- Development of individual creative practice, fostering new areas of practice through multidisciplinary practice research.

Benefits to NT
- Increase access and engagement with a greater diversity of communities on mainland (Strategic Priority 1: Everyone Welcome).
- Embodied XR arts practice-led research that tackle physical and inclement weather barriers to visitor's accessing FI.
- Inclusive, hybrid models of public engagement and exhibition strategies that widen access, participation and visibility of NT FI online and in physical venues
- Co-authored narratives of place that deepen public understanding of the island network's protected biodiversity.

Using the XR socially engaged outputs, UoS will be able to show the impact of their work and advocate for the further need of such arts practice-led research.

State what financial (if any) or in-kind contribution the non-HE partner organisation will be making over the duration of the award:

*(Maximum 200 words. A financial contribution is **not** a requirement. However, the AHRC expect that **non-HE partners based overseas** will make a financial contribution to the costs of the student's return travel and accommodation when visiting.)*

The partner organisation will contribute in-kind support to the researcher during their academic studies by offering:

- Mentoring in natural heritage engagement and conservation practices.
- Extended access and introduction to the NT Northumberland Coast & Hadrian's Wall Country portfolio of natural island heritage sites, data collection, databases, and curatorial initiatives by venue-based and outdoor staff
- Community engagement insight, specialist advice, and guidance via the appointed NT advisor
- Expert training in working with communities and support the candidate throughout the project.
- Collaboration on public engagement initiatives
- Opportunities for displaying their work on-site (Farne Islands and Lindisfarne) and online
- Opportunities for disseminating the research findings at the NT to its staff and public the dissemination to extended networks in the region and nationally.

Describe the nature of the collaborative arrangement and the activities the candidate will be undertaking with the non-HE partner organisation:

(Maximum 200 words)

UoS has a long-standing working relationship with the NT developed over a range of initiatives including CDA at Souter Lighthouse (start 2024), SeaScapes CoLab, the University of Sunderland Robson Creative Internship programme and regular placement opportunities for our Arts and Design students.

Year 1: The student will become part of the team and receive an induction to NT Northumberland Coast & Hadrian's Wall Country management of FI natural heritage sites, collections, databases, community engagement activities and wider policies, and arts and curatorial programmes for property and outdoor spaces by advisor Poad, who will also join tri–monthly meetings with the academic team to offer expert guidance. Further training in creative research methods will be provided and this will include specific participatory arts and design training provided by the appropriate institutes and university networks. An analysis of NT current public engagement activities, relationships, resources and policies will be completed, alongside a literature review and the selection of case studies and doctoral training sessions.

Year 2: Working closely with NT staff, the student will test and develop the practice-led research through iterative arts-led activities with identified communities. Models of practice for example completed models of socially engaged new media arts PhD research (Carpenter 2008, Sykes, 2023??) will be explored through collaboration and reflected upon using appropriate research methods and analysis in-line with research questions and aims.

Year 3: The creative practice will be completed and disseminated through interventions, exhibition, publications, and platforms aligned to NT networks and the wider heritage sector and academic channels. The student will complete their Phd thesis. Discussions will also take place on how the research may inform the portfolio's regional engagement strategies and national policy. The researcher will have the opportunity to present their research findings and work at NT during and at the end of their studies.

SECTION 3: SUPERVISION AND EXTERNAL ADVISORS	
Primary (or Co-) Supervisor:	Dr Suzy O'Hara
School or Department:	School of Media and Creative Industries
Email Address:	
Secondary (or Co-) Supervisor:	Dr Ming Jiang
School or Department:	School of Computing Science
Email Address:	
Advisor based at the Non-HE Partner Organisation:	Andrew Poad

Organisation/Institution:	National Trust
Email Address:	
Advisor based at the Non-HE Partner Organisation:	Laura Knowles
Organisation/Institution:	National Trust
Email Address:	

Additional Internal or External Advisors or Academic Supervisors, if any:

Name:	Professor Wolfgang Weilder
Organisation/Institution:	Newcastle University
Email Address:	_____

Explain how the expertise of the supervisory team and external advisor(s) will allow them to support the proposed project and the selected candidate:
(Maximum 500 words)

Director of Studies: Dr Suzy O'Hara is an Early Career Researcher explores interdisciplinary and collaborative models of art-making and curatorship and has been disseminated internationally in academic conferences and publications. O'Hara has devised and tested experimental models of cross-sector curatorship between artists, sector specialists, multi-disciplinary researchers, industry partners and communities through large scale, funded public engagement projects including SeaScapes Co/Lab (£260k) – an art and natural heritage project for SeaScapes: Tyne to Tees shores and seas, funded by National Lottery Heritage Fund (https://colabsunderland.uk/projects/seascapes). She leads Sunderland CoLab, an interdisciplinary research platform and recent publications include Art Hack Practice: Intersections between Art, Innovation, and the Maker Movement (Routledge). This expertise will offer valuable context to this project. She is Director of Studies for CDA with National Trust (starting 2024) and has co-supervised to completion two AHRC funded students in new media arts and curating.

Co-Supervisor Dr Ming Jiang
Dr Ming Jiang (School of Computer Science & Engineering, University of Sunderland) leads the BSc Game Development and MSc Data Science courses. He has extensive experience in working on EU FP7, EPSRC, AHRC, Innovate UK funded projects with Machine Learning, Data Visualization, XR (Virtual Reality and Augment Reality), and Gamification technologies in collaboration with digital industrial partners, public sectors, and regional SMEs. He has published in the area of mixed reality e-Learning for cultural heritage (2018), as well as Distributed Computing, Computational Intelligence and Robotics and their applications in Digital Edutainment and Industry 4.0 domains.

External Advisor: Prof Wolfgang Weileder
Prof Wolfgang Weileder is an artist and researcher whose research is an investigation into the relationship between time and space, the interface between permanence and transience, and how these can be explored to question our understanding of the landscape, both built and natural. He was the Principal Investigator on 'Jetty', a £350K AHRC funded interdisciplinary project that connects the debates of fine art, urban design and heritage. This research investigated how a contemporary public artwork can meaningfully contribute to the reshaping of the multi-faceted debate around the term Sustainability, specifically in the heritage context. The project was developed as a collaboration with urbanist Simon Guy, the founding director of the Manchester Architecture Research Centre (MARC) and with additional project partners from the arts, heritage (National Trust, Tyne and Wear Building Preservation Trust), education and business community.

External Advisor: Andrew Poad
External Advisor: Andrew Poad, General Manager, Northumberland Coast & Hadrian's Wall Portfolio, National Trust has worked in the management of countryside and heritage for nature for 36 years. The work of his teams has for many years explored how people might become more connected to heritage the natural world, particularly at Lindisfarne, Hadrian's Wall and Cherryburn (Thomas Bewick's Birthplace). His and his team's knowledge of the communities and how the currently engage or don't engage with the outdoor spaces on their doorstep will be invaluable to this project. The National Trust team that Andrew brings with him has an incredible knowledge of the Northumberland Coast, its wildlife habitats, its landscape character and its heritage.

SECTION 4: RESEARCH ENVIRONMENT

Please provide details about the research environment the selected candidate will be joining and its suitability:
(Maximum 500 words)

The student will be affiliated to the Faculty of Education, Society and Creative Industries and Faculty of Technology and Business research environments and will join a vibrant community of research students, staff, research associates and international visitors. They will enjoy an active programme of research and networking activities, including hybrid-in-form research seminars (three/month), which operate as a discursive platform for our research community to present research in progress; two doctoral symposia per year; and a range of social events. Alongside the rigorous Research Training Programme offered to all doctoral students at the University of Sunderland, the School of Art and Design delivers subject-specific research training with monthly sessions that cover Art and Design practice-led methodologies and ethics. Researchers also enjoy tailored library support by an assigned librarian, as well as specialist research technical support to access and utilise interdisciplinary and hybrid resources available across our Faculty outlined above.

The student will have access to the CRUMB scholarly archive for new media art and curatorship and the international CRUMB New Media Curating global network, initiated and hosted by the University of Sunderland.

The student will be aligned to the ongoing interdisciplinary community convened via CoLab Sunderland and will be also aligned with the U o S Participations Interdisciplinary Research Network which supports excellence for participatory research practice through a lively programme of research seminars, events and podcasts, and ArtWorks -U Network a professional facing initiative supporting people working in participatory arts.

The student will have access to the research and professional development activity of Faculty of Technology (MING XX)

Wider National Trust Research Networks.
The student will become part of the National trust national network of researchers and will attend events and meetings. Their research will support three research themes within the Future Farnes strategy 1) Visitor Experience 2) "Conservation and Curation" 3) " Climate Action" The primary theme which aims to shape how NT help people to connect with nature and culture through digital experiences, increase the number and diversity of our visitors through sustainable tourism strategies, and protect the natural biodiversity and wildlife on the Farne Islands. The project will help people connect to the island's stories, and celebrate the significance of our natural biodiversity, heritage and culture.