



# UoR-NHM Partnership Progress Report June 2023 – December 2024

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## Executive summary

The University of Reading (UoR) and the Natural History Museum (NHM) formed a formal Strategic Partnership in April 2023, aimed at maximising the benefits of the museum's new research and collections centre at TVSP. The partnership's governance became independent in June 2023, with a Joint Governance Board meeting quarterly and an Operational Delivery Group meeting monthly. Highlights of activities in the partnership's six priority areas include:

1. **Research expertise for global environmental challenges:** we have successfully delivered a series of six seminars and masterclasses on global environmental issues, with positive feedback on leadership and collaboration skills gained by the cohort of 17 participants. A Winter Retreat in January 2025 will focus on leadership development and research collaborations.
2. **ECR and Postgrad Development:** two joint PhD projects and one postdoc are underway. We are partnering on three doctoral training centres funded by UKRI, which focus on environmental and sustainability research, as well as data science. A Collaborative Fellowships Information Day encouraged early-career researchers to apply for joint research fellowships, with several applications already in progress.
3. **Local and regional engagement:** the partnership's work in this area has been focused on supporting the NHM Unlocked team in developing their Community Benefit Strategy for TVSP.
4. **Facilities to transform our science:** reciprocal visits have facilitated the sharing of information about our research infrastructure, and plans to increase access to analytical facilities and develop research infrastructure have been initiated. A joint Technicians Conference in June 2024 focused on technical collaboration and career development for technicians.
5. **Creative approaches for broad audiences:** joint efforts in this area include an application for an AHRC DFA and a number of research collaborations. A research and engagement day in October 2024, linked to an art installation at NHM, helped foster interdisciplinary conversations on art and science.
6. **Data science innovation:** focused on digitization and AI, UoR and NHM staff are working together to solve challenges in data migration, storage, and analytics. UoR Museum Collections are also engaging with DiSSCo UK.

We have developed a web presence to promote partnership activities and collaborations, with co-branded promotional materials used at public events including the University Museums Group conference and the International Biennial Systematics Association Conference.

We have funded nine small-scale collaborative research projects through a seed funding opportunity, supporting research and engagement activity in fields ranging from evolutionary biology to the colonial history of insect collections, and from the role of arts in shifting environmental conversations to the exploration of early wood technologies of the British Isles.

Looking ahead to 2025, we will review the six priority areas, robustly evaluate past activities, and showcase collaborative projects. A focus will be on Data Science and AI, with an event planned for mid-2025, and on further collaborations in Archaeology, with an event in June 2025. Continued support for postgraduates and early-career researchers is also a priority, alongside the development of large-scale funding applications for analytical equipment as work begins at the NHM collections centre at TVSP.

## Introduction to the partnership

The University of Reading and the Natural History Museum entered into a formal agreement, establishing a Strategic Partnership between the two institutions, in April 2023. The partnership aims to facilitate collaboration between the University and NHM, via an agreement at institutional level, to help realise the opportunities created by the new research and collections centre to be built at TVSP.

Initially established as a working group within the NHM's Unlocked Programme team, governance of the partnership was made independent from the Programme in June 2023, with new mechanisms established. Partnership governance is realised via a Joint Governance Board which meets quarterly (online) and includes five members of staff from each institution. The Board's first meeting was held on Tuesday 31 October 2023 and its members include:

### Natural History Museum

Tim Littlewood, Executive Director of Science

Ken Norris, Research Leader in Biodiversity Change

Caroline Smith, Head of Collections (Earth Sciences)

Kathryn Packer, Programme Director (NHM Unlocked) [until July 2024; replaced by Emma Hayes from September 2024]

Paola Ricciardi, Research Themes and Partnerships Manager

### University of Reading

Dominik Zaum, Pro-Vice-Chancellor (Academic Planning and Resource)

Tom Oliver, Associate Pro-Vice-Chancellor - Research (Environment)

John Gibbs, Associate Pro-Vice-Chancellor - Research (Heritage and Creativity)

Charlotte Johnson, Senior Research Development Manager

Beth Steiner, Research Facilitation Manager

An Operational Delivery Group leads the day-to-day work of the partnership. The group meets monthly, usually in person, and includes two members of staff from each institution.

The partnership supports joint activities which provide added value to both institutions in six priority areas:

1. Research expertise for global environmental challenges
2. ECR and postgrad development
3. Local and regional engagement
4. Facilities to transform our science
5. Creative approaches for broad audiences
6. Data science innovation

Activities carried out to date in each of these priority areas are detailed in the following pages.

## 1. Research expertise for global environmental challenges



Activity in this area has focused on planning and delivering a series of six keynote seminars on the broad theme of “Global Environmental Challenges.” Speakers were selected from senior staff within the University and NHM. The seminars are paired with six masterclasses, delivered by the same speakers, aimed at building research leadership skills for 18 mid-career and senior academics and collections specialists.

The seminar series includes the following six speakers and topics:

- Vince Smith (NHM), *The changing face of Natural Science collections: Digitisation, Data science and Artificial Intelligence* (Jan)
- Tom Oliver and Ros Cornforth (UoR), *How shall we respond to the climate and biodiversity crisis? Assessing and adapting to complex environmental risks* (Mar)
- Tim Littlewood (NHM), *Tackling global helminth diseases - a veritable can of worms* (May)
- Carol Wagstaff (UoR), *FoodSEqual: Co-production of a healthy, sustainable food system for disadvantaged communities* (July)
- John Tweddle and Lucy Robinson (NHM), *Creating science-informed advocates for the planet through research, education and engagement* (Sep)
- Jacopo Torriti (UoR), *Flexing energy demand to the timing of renewables* (Nov)

Masterclass topics have ranged from designing and delivering transdisciplinary research programmes to engaging with policymakers; they have often included hands-on exercises as well as time for personal reflection and for in-depth conversations. Masterclass attendees were surveyed halfway through the series. They all responded, and stated that they had gained confidence, inspiration, time to think more broadly and widen their networks, and had enjoyed learning from senior colleagues. Following the final session, they were surveyed again, and comments were overwhelmingly positive, including:

- “The opportunity to network and establish collaborations with experts from NHM has been invaluable”
- “I feel enriched from the experiences shared and the wider projects presented, encouraging wider and big thinking outside the day-to-day work”
- “I think the series has shaped my thinking around proposal writing, my part/place in a bigger system and understanding the wider landscape and I think that will have an impact on how I make future decisions and interact with others”
- “The series has significantly enhanced my confidence to take on leadership roles, especially the insights into interdisciplinary integration”

- “I am more aware of the opportunities available, and I feel I have better tools to take on leadership roles”

Attendees confirm that they have applied their learning practically by reaching out more and aiming to gather different views when designing research e.g. “I am currently writing a proposal with international partners. This has involved contacting new collaborators and discussing ideas at a national level with my existing network”.

An additional two-day Winter Retreat to end the masterclass series will take place on 16-17 January 2025 at Missenden Abbey in Buckinghamshire, with a programme based on input from attendees. Activities will include focused thinking time and group sharing sessions, leadership skills training, information about funding opportunities, as well as conversations on topics with potential for joint funding applications. In addition to aiming at increasing the cohort’s leadership and research skills, the retreat will also result in plans for one or more sandpit-style events, ideally co-led by cohort participants and focused on areas identified as being of joint interest for future funding applications.

## **2. ECR and Postgrad development**

There are two joint PhD projects running at present, both funded largely by the University of Reading with a contribution from NHM:

- Elizabeth (Lily) Garnett is working with Professor Mary Lewis and Professor Hella Eckardt (UoR), Dr Selina Brace and Dr Rachel Ives (NHM) on a project titled "Blood lines: a social, palaeopathological and biomolecular examination of the impact of genetic anaemia in Romano-British Poundbury Camp" (Sep 2023 - Aug 2026)

- Lucy Jackson is working with Professor Andrew Meade (UoR) and Dr Imran Rahman (NHM) on a project titled "Deciphering the Cambrian explosion of echinoderms" (Sep 2024 – Aug 2027)

Three new doctoral training centres aiming to tackle environmental science and sustainability challenges, led by the University of Reading and involving NHM as a core partner, have recently been funded by UKRI:

- NERC Climate System and Biodiversity Science CROCUS Doctoral Landscape Award

- BBSRC FoodBioSystems Doctoral Landscape Award

- NERC AI for Unlocking Datasets for Biodiversity Assessment and Prediction (AI-INTERVENE) Doctoral Focal Award

There is great appetite for additional joint PhD opportunities, and the two organisations are also included on an application for an AHRC-funded doctoral training award led by the University of Exeter (see below).

Dr Sam Hudson joined us in August 2024 for a 3-year post-doctoral research fellowship working with Professor Aleks Pluskowski and Dr Rob Batchelor (UoR/QUEST), Dr Selina Brace and Professor Ian Barnes (NHM) on a project titled "Molecular biography of an urban centre: two millennia of [ecological] community dynamics."



*Collaborative Research Fellowships Information Day, UoR, March 2024*

A Collaborative Fellowships Information Day was held at Reading in March, as an opportunity for early-career researchers to interact with UoR and NHM staff, with a view to encourage (joint) research fellowship applications. Sixteen researchers attended from institutions across the UK to engage with both professional and research staff from both organisations.

A full evaluation of the event is currently underway. At present, we are aware of one attendee who has submitted an application for a Royal Society University Research Fellowship (URF) based at UoR and with a letter of support from NHM, and one who has submitted for the same call through UoR but without a direct letter of support. One attendee will be submitting an application for a Leverhulme Trust ECF in February, and another hopes to submit an ERC Starting Grant application in the next round.

### **3. Local and regional engagement**

This priority area has been renamed from ‘local community benefits’ to ‘local and regional engagement,’ in order to indicate a broader geographical remit and to include economic benefits too, which ultimately flow to communities, but which also involve working with local businesses.

The priority area leads met with Paola Ricciardi and Beth Steiner in June to share updates on ongoing conversations with local and regional stakeholders, including Wokingham Borough Council, Shinfield Parish Council, Arborfield Parish Council, the Berkshire Nature Partnership and Bath Spa University’s “Forest of Imagination” lead.

The partnership’s work in this area is currently focused on supporting the development of the Community Benefit Strategy, which the NHM Unlocked team is currently drafting as part of the planning permission requirements for the collections, research and digitisation centre at TVSP.

#### 4. Facilities to transform our science



*Conservation Lab tour, NHM, June 2024*

A series of reciprocal visits have been underway over the past year: UoR staff visited NHM science facilities in July 2023, NHM staff visited UoR Archaeology facilities in September 2023, UoR DTS staff attended meetings and tours with NHM Science Digital staff in July 2024, and there have been several additional trips as part of partnership activities (see below).

Alex Ball (Head of Imaging and Analysis, NHM) and Graham Luke (Technical Head, Research Microscopy Facilities, UoR), are developing a specimen/sample analysis form to simplify and streamline access to the other institution's analytical facilities. Alex and Graham have started meeting regularly to discuss reciprocal access to facilities and any other overlapping interests from the point of view of research infrastructure. Several UoR students have undertaken analysis of samples on the NHM's SEM systems with support from Alex. Alex also provided training on the SEM system for UoR senior technicians Amanpreet Kaur and Saeed Mohan, as part of plans to share and increase expertise.

Colleagues are sharing information on existing and desired facilities, with a view to collaborate further on funding applications to maximise benefit to infrastructure where possible and the partnership is beginning to implement ways to convey these needs in a more strategic manner.

A Technician Conference was held in the NHM Flett Events Theatre in June 2024, attended by over 60 members of the technical workforces from both organisations. The event was organised by Alex Sossick and Ranbir Bailey at NHM and Karen Henderson at UoR, and brought together colleagues to highlight synergies in technical research skills and opportunities to collaborate on the development of research infrastructure.



The event also promoted the benefits of the [Technician Commitment](#) (of which UoR is a founding signatory), which aims to ensure visibility, recognition, career development and sustainability for technicians. Guest speakers, from external HEIs which are members of the London and South-East Regional Network, also presented on their positive experiences of the Commitment. Alex Sossick is driving the efforts for the NHM to be the first Independent Research Organisation to sign the Commitment, and the partnership is supporting these colleagues at both organisations to advice Royal Botanic Gardens Kew in their similar ambitions.

## 5. Creative approaches for broad audiences



MERL Tour November 2023

Work in this area is led by Isabel Davis (Research Leader in Collections and Culture at NHM) and John Gibbs (Research Dean for Heritage and Creativity at UoR), who organised for UoR staff to visit NHM in May 2023 for a day of collections-based research conversations.

Isabel and John are Co-investigators on an application for the [AHRC Doctoral Focal Awards](#) which was submitted in July 2024, led by the University of Exeter. The project, entitled HumAnE (Human-Animal-Environment) Health Partnership, also includes Guildhall School of Music and Drama, Cranfield University, and Historic England amongst its partners.

Together with another UoR Professor, Teresa Murjas, John visited collections spaces at Wandsworth in August 2024 in preparation for potential filming for their film/videographic project that addresses questions around object curation and preparing for travel, but which also reveals the relational side of this (between expert/s and object) and simultaneously ‘gives voice’ to the object. The Moves team is kindly facilitating this project, in view of then utilising the outputs to showcase this aspect of the Unlocked Programme.



John, Isabel, Paola and Beth organised a joint research and engagement day in October 2024, which aligned with themes explored in artist Jana Winderen’s installation “[The River](#)”, which is on display in the Jerwood Gallery at NHM. The event aimed to inspire an interdisciplinary conversation on creative practice, humanities and science for environmental change, and included a research morning for UoR and NHM colleagues as well as afternoon presentations by Jana Winderen, artist Tania Kovats and NHM Bioacoustics Scientist Ed Baker delivered to an invited, public audience. Feedback gathered through a survey from mini-interviews on the day by Associate Professor of Art Tina O’Connell showed that attendees found the event extremely interesting, with many commenting on the strength of the multidisciplinary conversations.

## **6. Data science innovation**

Vince Smith, Head of Digital, Data and Informatics at NHM, is leading on this strand of activity with James Ferryman from UoR. James is the Primary Investigator for the NERC AI-INTERVENE DFA which was awarded funding in September 2024 (see above).

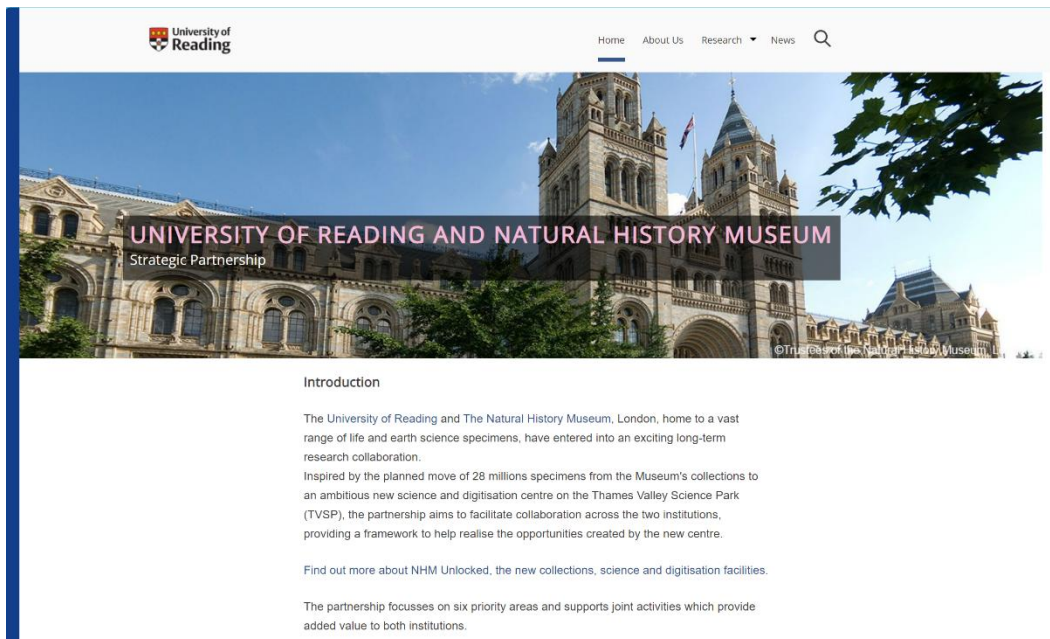
In July 2024, a team from UoR’s Data Technology Services met with Helen Hardy (Deputy Head of Digital, Data & Informatics for NHM Science) and Richard Hinton, CIO. They were given a tour of the digitisation department and discussed some of the challenges they have in that area, as well as conversations across a range of IT and digital work. The teams agreed that there are shared challenges in the areas of migrating platforms, storage, and data and analytics work, and hope to work together to solve these collaboratively, bringing in members of other teams to discuss digital portfolios and preservation and archiving as appropriate.

Discussions are also ongoing for the relevant UoR Museum Collections (from the Herbarium, the Cole Museum of Zoology, and the Museum of English Rural Life) to join DiSSCo UK.

## 7. Additional activities

### Communications

We have developed a [web presence for the partnership](#), which has been set up as part of the University of Reading's main website and is used to promote upcoming activities as well as sharing general information and news about collaborations. Both organisations have also established MS Teams channels for the partnership (with approximately 130 members each), which have been successful in communicating opportunities for collaboration and joint funding, news, and general updates.



In May 2024, a set of co-branded promotional banners and postcards were designed and created to help us showcase the work of the partnership. In addition to being displayed during the seminar series, these have been used at the following public events:

- The annual University Museums Group (UMG) conference, which was held at UoR in May 2024. Vince Smith and Helen Hardy (NHM) were keynote speakers, presenting about the work of DiSSCo UK, and Paola Ricciardi presented during a session focusing on the National Museums Partnerships happening at Reading, alongside Sally Fletcher from the British Museum. The theme of the conference this year was “Connections & Collaborations: University Museums and Research Excellence”, which was an excellent opportunity to showcase the benefits of the institutional-level partnership to both organisations.
- The 2024 International Biennial Systematics Association Conference, also held at UoR in June 2024. Paola Ricciardi and Beth Steiner attended as exhibitors with a stand to engage attendees with information about the partnership.

### Supporting collaborative activities

Joint events and staff visits are being supported through a partnership budget, which both institutions agreed to set aside to enable travel and discussions. Approximately £12.5K were spent on partnership activities before 31 July 2024 (end of UoR financial year).

A seed funding opportunity was launched at the end of 2023 to support projects undertaken collaboratively by researchers at both institutions, including such costs as proof of concept and proposal development, costs of meetings, travel and subsistence, research/clerical assistance etc. Most requests are suggested to be for up to £2,000, but applications for up to £4,000 have been considered for more ambitious, interdisciplinary projects. These are evaluated on a rolling basis by the Operational Delivery Group on their relevance to the partnership's six priority areas and the potential for beneficial impact in line with the two organisations' strategic aims.

Nine successful projects have been awarded funding to date, for a total allocated of just over £20k. These are:

- Louise Johnson (UoR) and Imran Rahman (NHM), *Evolution Day* (COMPLETED)
- Gwen Maurer (UoR) and Judith White (NHM), *Bridging Past and Present for Future Conservation: Zooarchaeology, Biomarkers and Stable Isotope Analysis to address Human-Avian Ecology, Biodiversity and Climate Change in the Eastern Fertile Crescent* (COMPLETED)
- Karen Henderson (UoR) and Alex Sossick (NHM), *Joint meeting of the UoR and NHM technical workforce* (COMPLETED)
- Rob Batchelor (UoR) and Neil Adams (NHM), *Unlocking NHM field samples for fossil vertebrates: a pilot project* (ONGOING)
- Annemieke Milks (UoR) and Silvia Bello (NHM), *Making a point: early wood technologies of the British Isles* (ONGOING)
- Simon Potts, Michael Garratt (UoR) and Ian Barnes, Alberto Zilli, Geoff Martin, David Lees, Jordan Beasley (NHM), *Methods testing for collecting and identifying pollen loads on moths* (ONGOING)
- John Gibbs (UoR) and Isabel Davis (NHM), *The role of arts in shifting environmental conversations* (COMPLETED)
- Becks Spake (UoR) and Alex Varah, Adriana De Palma and Isobel Strudwick (NHM), *Two-part workshop on Biodiversity-wellbeing relationships* (ONGOING)
- Rohan Deb Roy (UoR) and Isabel Davis and Beulah Gardner (NHM), *Colonies, hives and queens: 'Insects and colonialism'* (NOT STARTED)

Reports are being requested as projects come to an end, and details will be shared with the Joint Governance Board and on the website.

## Forward look

During 2025, we plan to review the scope and definitions of the six priority areas for partnership activity, which were defined shortly following the establishment of the partnership. We will assess whether they still fit the partnership's needs; we will also outline and map KPIs for the partnership, to evidence delivery mechanisms and desired outcomes within each focus areas.

In the first six months of 2025, we will prioritise the evaluation of activities undertaken so far, reporting on their outcomes and preparing to amend and improve or repeat as appropriate. We will also develop plans to showcase seed-funded projects and ongoing partnership work, to colleagues within both organisations and to our broader audiences where appropriate, such as during the next UoR Community Festival scheduled for May 2025.

We have recently identified two areas which show great potential for collaborative work, but which require some organisational input. The first of these is in Data Science and AI, which will now be supported by the new NERC DFA. An event is being planned for mid-2025, to bring together staff from both institutions and discuss the opportunities for joint research. The role of the NHM would be to share current collections-based challenges and research questions, which computer science and/or AI approaches could help tackle. UoR have significant expertise in this area across several departments including Computer Science, Meteorology, and Mathematics and Statistics. The second area is Archaeology, for which we also plan to hold an event in June 2025. Although several connections between the organisations already exist in this area, there is clear scope for more collaboration and more ambitious visions, around several themes of strength which have been proposed by the UoR Archaeology Division as a starting point for discussion and growth.

We will also continue to support collaborative work in areas where connections have been successfully established. These include Evolutionary Biology, for which a regular series of events has been proposed following the seed-funded Evolution Day in March 2024. There is also still much enthusiasm to support students and postdoctoral researchers working on joint research projects. We are discussing how best to take advantage of UoR's [Internship Scheme](#) for undergraduates and the potential to establish joint MSc programmes. We will also continue to scope out opportunities for collaborative PhD projects, making the most of the recent successes in obtaining research council funding for DFAs and DLAs.

As the work begins on the NHM Unlocked site at TVSP we will increase the focus on conversations around potential joint large-scale funding applications for equipment at TVSP. The implementation of a more structured approach to sharing information on desired equipment and internal funds is already underway and will feed into wider discussions of plans for TVSP, including leveraging of funds.