Making a Difference: Showing the Positive Impact of Natural History Collections

AGM & Conference 8th & 9th May 2025 in partnership with The Manchester Museum

NatSCA
Natural Sciences Collections Association

MANCHESTER MUSEUM

Thursday 8th May

First Session

Lightning talks (5 minutes each)

1. **Opening the doors: presenting natural history collections to the public**. Grace Flanagan: Royal Botanic Gardens, Kew

   For the people outside of the museums sector, the "behind the scenes" areas where we house most of our natural history collections come across as distant centres for academia that are inaccessible to the public. However, last summer we decided to bring the public up close with our collections.

   Last year, The Royal Botanic Gardens, Kew opened the doors of the herbarium and allowed the public to look around its historic wings for one weekend in September as part of London's Open House Festival. Hundreds of members of the community and the Greater London Area came, wanting to know more about the work Kew does as well as the history of the building itself. Over the weekend, we shared the history of the herbarium, why herbaria are so important to the recording and conserving of biodiversity, and stories of some of the great researchers that have worked within the herbarium. We answered the many questions visitors had about Kew's collections such as how they can access it through our digitisation program and what they can use the collections for. Though the road to the open house was full of bumps to overcome, the positive experience of the public encouraged us to do the event again this year. Our open house event opened our eyes to how the public views the herbarium collections and how natural history collections as a whole can be used by the public as well as the researchers we encounter on a day-to-day basis.

2. **Engaging for impact: how the digitisation team is reaching stakeholders in the margins**. Glory Turnbull: Natural History Museum, London

   Sharing the wonder is core to the NHM digitisation team's goals and mission but how can we engage new audiences and inspire the scientists of the future? And

how can we adapt our outreach methods to reach marginalised members of the public?

Enter: The NERC Summer School Programme. This 5-minute lightning talk explores one highly effective initiative that made a lasting impact on a group of teens and young adults.

Teenagers and young adults are at the very beginning of their careers, making decisions about how they want to spend the rest of their lives. The importance of inspiration and encouragement at this critical moment can be pivotal in opening avenues for their future education and careers.

Together with an interdisciplinary team of scientists, researchers, and educators, the NHM's digitisers planned and executed a hands-on data collection activity exploring the relationship between collectors, the NHM's collections, researchers, and the emerging machine learning tools transforming scientific discovery.

Among the many fantastic outcomes of this event, digitisation was the number one career that students reported they were interested in pursuing that they had never heard of prior to the workshop.

Attend this talk to hear about the process, methods, and exceptional outcomes of this programme.

3. **Balancing resources and responsibilities: strategies for curator-led public engagement**. Beatriz Vieite: University of Aveiro, Portugal

This paper presents recommendations for public engagement with science using biological collections, based on semi-structured interviews with collection curators from university, regional and national museums in the United Kingdom.

From discovering new species to helping to predict environmental phenomena, natural history collections have a long history of providing unique data for research. At the same time, the specimens and collectors of these collections also hold valuable stories, where no object is the same. Such stories have the power to engage different audiences through different media, such as hands-on activities, talks or even virtual reality experiences. The involvement of curators in engagement activities can often be beneficial since they provide not only specific knowledge about certain specimens but also to connect with a non-academic audience and help demystify the "ivory tower" perception that might exist. Yet not all media might be appropriate for every audience, and "best practices" might be challenging to replicate depending on the resource constraints of individual institutions. It is also important to consider that curators often have too many responsibilities and their time and communication skills can be limited.

How do curators navigate these tensions? Practical approaches for effectively engaging with the public, as reported by curators of the UK's biological collections are presented, alongside recommendations for future practice.

4. **Cue the Kew internship**. Clare Drinkell: Royal Botanic Gardens, Kew

   Every collection has a backlog. Specimens from collectors, gathering dust in the basement. Kew Herbarium is no exception, with its fair share of bundled plant material, wrapped in newspapers from far distant lands, labelled with indecipherable hand scribbled notes. So how best to deal with this problem that never goes away?

   Cue (or should I say, Kew) the Science Project Internships. Every year, Kew Science Directorate offer six 12-month internships for undergraduates in the middle of bachelor's or master's degrees. Paid student interns receive valuable hands-on experience and training in key research skills. The interns work alongside experienced botanists, curators, mycologists and conservation scientists and have access to world-renowned collections of plant and fungal specimens, library and research facilities.

   In this talk I highlight the Du Puy collection, and the work of intern Lilly Cranham as a case study. This collection has more than 700 unaccessioned specimens, alongside photographs, collected in Madagascar over 30 years ago, with a complicated history, desperately needed some attention. These specimens and photographs are a valuable insight for understanding the Malagasy flora due to the changing landscape since their time of collection. To prepare the collection for incorporation to Kew Herbarium and distribute duplicates to numerous herbaria across the world, Lilly was tasked with processing the abandoned material.

   This case study demonstrates how internships are mutually beneficial. Throughout her placement Lilly gained invaluable experience working in natural history collections, learning the ropes working within the curation team of the herbarium, and counterparts in herbaria across the world. The internship resulted in researchers having access to scientific material which was previously unavailable.

5. **Making an exhibition of ourselves: displaying and not displaying human remains in the Grant Museum**. Hannah Cornish: Grant Museum of Zoology, University College London

   How do we represent human remains ethically in a natural history museum? How do we honestly address the lack of consent and colonial violence in our collections? How do we ensure we are giving visitors access to knowledge about their own bodies and their place in the natural world while balancing personal, cultural and religious sensitivities? This can be incredibly challenging given the realities of our collections and resources.

   When endeavouring to display human remains more ethically some museums have opted to remove all human remains, while others have redisplayed, recontextualised, and added content notices.

   During the Grant Museum redevelopment project, we considered a range of solutions before deciding on our current display. We'd like to share our decision-

making process and open up a discussion about how other museums are approaching the issue.

6. **Bringing digital collections to the social media masses: 80 million specimens, with at least as many stories**. Skye Neal: Natural History Museum, London

As a digitiser my job is to open up the collections, making them available to the public, but as a user of social media it is difficult not to see the potential story behind every single specimen. From sparkly specimens to interesting collectors, the impact of the climate and biodiversity crises, new workflows, and personal stories from the team, social media is a tool that can be used to showcase every aspect of what we do.

There is no single way to approach this, and in many cases what works for one institution may not work for another, but you don't have to be a social media manager to start sharing your work with others. Chances are, if you think something is interesting there is going to be someone else out there that will also find it interesting. It's an opportunity to learn to talk to different audiences, find out what they're interested in, and what kind of content pulls people in to find out more. This is also true for talks, events, and tours - museums are full of wonder, what else could you be doing to share it?

For the Digitisation Team this has been a way to show creativity, express themselves, and make use of their assets in ways that the day-to-day responsibilities of the job may not otherwise allow. This lightning talk aims to provide inspiration on how social media can be used to enhance your work, and how it can change the way you view and interact with your work. The impact we have seen has driven more traffic to our digital collection, showcased different career pathways in STEM, demystifying science and creating advocates for the planet.

7. **Utilising plant traits from herbarium collections and species descriptions to enhance conservation efforts in southeast Asia's biodiversity hotspots**. Alison Moore: Royal Botanic Gardens, Kew

Well named, curated, and updated herbarium collections are invaluable in producing floristic accounts and species descriptions thereby allowing botanists access to centuries of plant trait data. Trait databases, like those being developed at Kew Gardens enhance the availability of traits for conservation research.

Plant species traits are becoming a more crucial tool for informing conservation strategies. By incorporating them, conservation efforts can be more precise, ensuring the protection of not only individual species but of the broader ecosystems and communities that depend upon them. The use of such traits in conservation planning is particularly useful in very data-poor areas where few preserved collections exist.

This presentation summarises the use of plant trait data in recent publications and discusses how their impact can be used to shape expedition and conservation project planning.

Publications: Environment-dependent influence of fruit size upon the distribution of the Malesian archipelagic flora; Island area, isolation and climate effects upon flower traits in a megadiverse archipelago; Species traits aid bold conservation strategy in a megadiverse yet under-sampled landscape

8. **A time capsule of extinction: Scottish wildlife in taxidermy**. Caitlin Jamison: Montrose Museum, Scotland

In Montrose Museum visitors can see taxidermy specimens from the local area mounted in their natural Scottish habitat. Due to limited funding and large difficult-to-open display cases, the interpretation has remained largely unchanged since the 1970s – a time capsule of extinction.

Since then, bird populations have declined, and hedgehogs no longer frolic in gardens but what is most poignant is the difference for some of Scotland's most iconic wildlife. The rapid pace of the climate crisis is highlighted through the severe decline of the red squirrel and the near extinction of the Scottish wildcat.

Museum interpretation describes the red squirrel as 'widespread and common', but it has now been decimated by habitat loss and the invasive grey squirrel. Visitors learn that the majestic Scottish wildcat is 'fairly common in our hills and glens', a far cry from reality today. Wildcats have been pushed further and further north and are threatened by hybridisation and disease. Both act as tangible examples of the devastating effect human activity is having on the natural world.

People often comment that they remember more songbirds when they were children, or that storms seem to be more ferocious now than they used to be. It can be hard to pin down exactly what has changed when the scale is global. This natural history collection has the potential to act as the catalyst for discussions in this community around the climate crisis.

We are midway through a Museums Galleries Scotland funded project to digitise our natural history collections; through this, forthcoming updated interpretation, and a programme of events, we will open a non-confrontational dialogue with visitors to address this global challenge in on a local scale. In adopting this approach, museums can reach visitors that may not have engaged with environmental issues before, and prompt further discussions in the museum and beyond.

Posters:

Anything but boring: a case study in the use of drill core at the British Geological Survey (Keyworth, Nottingham) for palaeontological research. Meghan Jenkinson (presenter)[1,3], Crispin Little[1], Michael Howe[2,3], Simon

Harris[2,3], Alex Dunhill[1]: [1]The University of Leeds; [2]The British Geological Survey; [3]The Geological Collections Group

The National Geological Repository at the British Geological Survey (BGS) contains over 250km of core material from >15,000 onshore boreholes drilled in Britain. Within these cores exists a vast number of fossil specimens, systematically retained and precisely recorded stratigraphically, which are available for research as part of the BGS Registered Specimen Collection. However, the long-term availability of such core material is increasingly at risk, due to underusage, budget cuts, and diminishing storage space. Existing core is often an irreplaceable resource, with new core sometimes costing millions of pounds to obtain.

Here I present my PhD research as a case study of the usefulness of this resource in palaeontological research, in which I identified the registered fossil specimens from seven BGS cores to investigate regional benthic extinction-recovery patterns across the late Pliensbachian and early Toarcian (Lower Jurassic; ~183mya) hyperthermal event. This event, relating to environmental perturbations linked to the Karoo-Ferrar Large Igneous Province, coincides with benthic species extinction and ecosystem collapse, which in some regions took up to 7 myr to recover.

Complete Pliensbachian-Toarcian aged surface outcrops are relatively rare in Britain, restricted largely to the Yorkshire and Dorset coasts. However, a substantial number of BGS cores exist from areas where there is no surface outcrop for these time periods, such as the Llanbedr ((Mochras Farm) NW Wales) and Warlingham (Surrey, England) cores, or where the sequences are expanded and complete compared to nearby coastal outcrops, such as the Winterborne Kingston core from Dorset. Fossils from these cores allow regional investigations into the biotic events across the late Pliensbachian and early Toarcian, showing substantial differences from patterns established from the coastal sections.

This study illustrates how increased palaeontological research on BGS cores can in turn have a positive impact on their long-term availability. So, why not use them?

Discovering microplastics in the deep ocean: using a private natural history collection to bring science to life in the classroom. Andrew Taylor: Andrew Taylor Natural History Collection

The Andrew Taylor Natural History Collection is a private collection of over 170,000 specimens covering both earth and life sciences. The collection has been amassed over 40 years with the purpose of making rare and unusual specimens available for both research and education. The flexibility of a private rather than institutional collection enables significant outreach opportunities, and over the last 12 years the collection has built up a programme of exhibitions and events with schools in Staffordshire.

The display will discuss the co-development of an interactive school-based activity with Denstone College for British Science Week on the impact and extent

of microplastic pollution. Based on the paper *Microplastics and Synthetic Particles Ingested by Deep-sea Amphipods in Six of the Deepest Marine Ecosystems on Earth* (Jamieson, A. *et al*, 2019 R. Soc. Open sci 6: 180667 http://dx.doi.org/10.1098/rsos.180667), specimen displays and activities were created in collaboration with teachers for students at a range of key stages from local schools to investigate. The activities guided students through their own discoveries of the extent of microplastic pollution in one of the most extreme environments on the planet; where this plastic comes from, how the plastic gets there, how it was discovered, and what impacts it might have. These activities were brought to life through specimens from the collection, introducing students to species they had never imagined might exist, much less heard of. Students were able to experience scientific research, understand how research is undertaken, and how papers are produced.

The display will recreate some of the activities and exhibits, while analysing the success and value of bringing both rare extremophile species and cutting-edge research into the classroom. It will highlight the importance of private collections being accessible for education in a school environment, bringing complex subjects to life for students who otherwise feel disengaged, disenfranchised, or unempowered in important issues in the planetary emergency.

Second Session Education & Accessibility

11.40 – 12.00 **Addressing accessibility: ideas for inclusive natural history displays**. Anna Massignan: National Museum of Ireland – Natural History

This presentation will explore learnings from, and ideas for projects aimed at enhancing accessibility and inclusivity in natural history museums, demonstrating the impacts of thoughtful design on visitor experience.

The first project, conducted at the Natural History Museum of the University of Pisa, involved creating an inclusive aquarium exhibit using tactile 3D fish models, varied textures, Braille legends, and an accessible video panel. These adaptations enabled visually impaired visitors to experience and understand the shapes, colours, and patterns of aquatic species from around the world. Drawing on research (Leporini et al., 2020), the project addressed key accessibility challenges through innovative use of materials, colour contrasts, and multisensory elements.

Building on this experience, the second project at the Natural History Museum of Dublin focuses on a large-scale renovation, including critical accessibility upgrades such as the installation of lifts and the integration of more inclusive displays in the future exhibition design. By linking these two projects, this presentation will highlight the evolving approaches to accessibility in natural history museums, from small-scale interventions to institution-wide transformations.

The discussion will emphasize practical tools, lessons learned, and strategies for advocating for accessibility during museum renovations. These projects illustrate

the powerful role natural history collections can play in fostering equity, inclusion, and removing physical barriers.

12.00 – 12.20 **Nature needs everyone's help, and the Real World Science network are working together to help it thrive!** Fareeda Atwan: Natural History Museum, London

Nature needs everyone's help, and the Real World Science network are working together to help it thrive!

Research shows that building more meaningful connections with nature inspires people to protect it. With over 80% of the UK's population living in urban areas, people's role in protecting nature can be poorly understood and so we set out to reveal the wonder of nature on their doorstep. As such, over the last three years we worked with our 13 network members from across the UK to creatively engaging students and teachers through the Explore: Urban Nature project.

By working in partnership, this ambitious programme has achieved an extended reach, engaging over 20.5k students and over 1,000 teachers, focusing on upper KS2 and KS3 students (or equivalents in devolved nations) from disadvantaged communities.

This session will highlight how Explore: Urban Nature has used natural history collections to drive its objectives. The programme has introduced creative approaches to engaging local audiences with nature through scientific investigation workshops. By leveraging our existing collections, and acquiring new specimens, we've brought these resources into active use for learning. Highlights include:

- Connecting learning programmes to underused natural history collection items in Leeds to spark curiosity and local relevance.
- Developing collections specifically for workshops with the Natural History Museum, such as creating a set of insect specimens in resin, enabling close, hands-on exploration of biodiversity.
- Acquiring new items for handling collections at Rochdale, Your Trust, ensuring students can tangibly engage with nature in inspiring ways.

Explore: Urban Nature offers a model to build STEM skills and inspired nature connection through curriculum-linked, nature-based activities that make creative use of collections. This session is ideal for those interested in engaging diverse audiences through a place-based approach, and with an interest in strengthening the impact of natural history collections in museum learning.

12.20 – 12.40 **A new museum display for the blind: does it make a difference?** Claire Smith, Amanda Callaghan, Caitlin Walton, and Emma Dunford: Cole Museum of Zoology, University of Reading

In 2023 staff from the Cole Museum of Zoology, University of Reading, ran a successful event for a mixed-age adult group from Berkshire Vision charity for the visually impaired. We produced a trimmed-down version of a student practical that talked about the anatomy of animals, using specimens such as skulls, starfish and corals that could easily be safely handled and understood.

The Cole Museum, a collection designed for teaching zoology, was redesigned and moved in 2020, with all specimens behind glass and unavailable for visually impaired visitors. The positive response to our laboratory event prompted us to consider how we could make the museum more inclusive and available to the blind.

This talk is to present our newly designed display which includes handling models and information in braille and written text. The display subject is in keeping with information in the museum on evolution and diversity, which is aimed at A level Biology and first year BSc Zoology degree students. The language used in the display makes it suitable for all audiences over the age of 10.

We will be presenting our experience in producing this display, with some of the issues we encountered, along with an assessment of the success of this display as a new resource in the museum.

Third Session Colonial legacies

14.15 – 14.35 **The colonial legacies of natural history collections: specimens from the Caribbean as a case study**. Patricia Torres-Pineda: Museo de Historia Natural "Eugenio de Jesús Marcano" & University of Michigan Museum of Zoology

It has been estimated that at least 1.1 billion zoological specimens are housed in natural history museums and collections around the world. These specimens comprise the foundation of a plethora of biological and environmental research, including studies on wildlife biology, ecology and conservation, habitat restoration, predictive investigations related to climate change and public health as well as education and public engagement.

In the last decades, museum and collections professionals have started important conversations regarding the colonial legacies that have shaped and, in many cases, still inform the practices, access and use (or lack thereof) of collections. Regrettably, these debates are still not as prevalent in the field of natural history collections and museums. Despite the Caribbean being one of the top Biodiversity hotspots of the planet (geographic areas that concentrate a large number of unique species), this diversity is not being fairly represented in Caribbean-based museums and collections.

Here, I present preliminary results of an exploratory study on the geopolitical distribution patterns of zoological natural history specimens from the Caribbean in collections around the world, where striking disparities in quantity and quality of collections housed locally, in comparison with those in Global North institutions become evident. In order to address the causes and implications of these biases and open a dialogue that move us towards more inclusive and fairer practices in

zoological collecting and curating practices, we must understand the extent and magnitude of the disparities.

14.35 – 14.55 **Hidden hands in colonial natural histories: lessons from four case studies at McGill**. Anna Winterbottom & Victoria Dickenson: McGill University, Montreal, Quebec

This talk reflects on a research project based at McGill, "Hidden hands in colonial natural histories" (2022-2025). We begin by discussing the concept of "hidden hands" and why we believe it is useful to describe people who were important to making natural history collections, but whose knowledge and skills have rarely been discussed. These include women, servants, and enslaved people as well as local and Indigenous experts and "go-betweens". We will introduce our four case studies, which focus on Canada, Haiti, India, and Sri Lanka, and use materials ranging from herbarium specimens, natural historical drawings, palm-leaf manuscripts, to material belongings. Some of the practical approaches to these materials that we will discuss include, cataloguing, digitisation, and the identification of species. The theoretical approaches that we bring to the materials range from communal biographies to animal histories to a focus on material culture and the material aspects of artwork and manuscripts. We will also talk about some of the partnerships we have made and some approaches that emerged from these partnerships, including working with visual artists, hosting experts for study visits, and holding group study days within museum collections.

14.55 – 15.15 **Altering the face of nature: connecting Liverpool's natural history heritage and institutions**. Deana Heath: University of Liverpool

While Liverpool was a key imperial city and hub of empire that both helped to remake and was in turn shaped by the transformations in the natural world wrought by empire, such developments have attracted little scholarly or public interest. The aim of "'Altering the face of nature': Liverpool, natural history and empire", a project in development that will bring together a range of institutions—including National Museums Liverpool (specifically World Museum, the Maritime Museum and the International Slavery Museum), the University of Liverpool (specifically Ness Botanic Gardens and the Victoria Gallery and Museum), Unilever, the Liverpool School of Tropical Medicine, and Knowsley Safari Park, in addition to the charity Grow Wellbeing and the tech startup MindCubes—is to understand how empire transformed not just the reality, but understandings, of nature in Liverpool and its environs. We seek, in addition, to develop and encourage new ways of looking at and interacting with the natural world, in Liverpool and beyond, to address the role of empire in generating climate change and biodiversity loss, to offer potential approaches to both connecting collections relating to and decolonising natural history, and to promote wellbeing.

This paper will provide an overview of the project before going on to explore how we plan to link the collections of the various institutions involved in it through the creation of a semantic database that will connect the global and the local, the scientific and the mundane, the unknown with the known or the imagined,

evidence with erasure, and celebration with mourning and loss. We hope to use this as an example, in other words, of how to address the differing systems, absence of information, and ongoing colonial nature of databases and collections relating to natural history.

15.15 – 15.35 **A visitor intrudes and decolonises natural history: a not so scientific perspective?** Su Liu: University of Sheffield

Museum objects are gateways to the stories behind their formation, collection, preparation, and the contributors involved. Recognising the centrality of technology to our everyday experience, visitor access to multimedia narratives can shed light on the decolonisation of difficult histories. My past interactive narrative project supervised by National Museum Wales is an adaptation of the accounts of Thomas Drummond (1793 — 1835), a naturalist who was separated from Franklin's Mackenzie River expedition, with an emotive focus on indigenous contributions in assisting excursions and securing the naturalist's survival.

Recreating early modern science accounts (those written since as early as the Scientific Revolution) reveals the conflict between the delivery of factual information and the pursuance of aesthetics and entertainment. While early modern styles of writing science are a lot more descriptive than contemporary science writing, the reliability of a historical account may depend on our understanding of the differences between historical and contemporary contexts, and may be affected by the researcher's emphasis on human participants and speculations. Furthermore, indigenous contributors tend to be omitted from historical accounts and care must be taken to not repeat these instances of historical neglect.

I will share my experience in the detailed process of translating natural history accounts and technical knowledge into down-to-earth material, including the challenges in interdisciplinary collaboration and solutions. I will also discuss the ethics and limitations of creative history and/or science writing, as well as my understanding of public engagement at museums from a non-professional visitor's perspective.

Fourth Session Discussion panel

15.55 – 16.55 **Making a difference**

Friday 9th May

First Session Collaboration, Digitisation, & Sustainability

10.25 – 10.45 **Ways to skin a (large) cat: re-establishing relationships between live and dead collections**. Emma Murphy: National Museum of Ireland – Natural History

This paper will detail how the National Museum of Ireland – Natural History (also known as the Dead Zoo), is working to restore links between zoo and museum collections in Ireland, with sustainability, decolonisation and biodiversity education benefits. This talk will provide a case study for how museums with small teams can make big wins for their collections by tapping into under-utilised zoo collections post-mortem. Historically there was often a clear route for animals to go straight from the zoo, to comparative anatomy teaching labs, and then into museum collections. In more recent times, these relationships between live and dead collections have in many cases dissolved due to changing staffing, teaching methods, limited resourcing, and less close ties between our institutions.

NMI-NH began working on their relationship with the Zoological Society of Ireland last year, leading to the acquisition of an Amur tiger skin and skeleton – a first for the collections. This work is presented as a case study, with guidance and learnings, and exemplifies how museums with very limited capacity can feasibly acquire new “star” specimens. It also discusses this work in the context of sustainable & ethical use of natural resources, and how these specimens with modern legal provenance can be used as a tool to create in-gallery discourse on topics of over-exploitation, the biodiversity crisis, decolonisation, and contrast historic collecting practices with those of the modern-day ethical museum.

10.45 – 11.05 **The hosted portal of the Arctic University Museum of Norway, an example of how to provide open access to natural history collections**.
Vanessa Pitusi & Andreas Altenburger: The Arctic University Museum of Norway

Natural history collections are the backbone of biological sciences, providing the physical reference material for species names, which are essential for scientific communication, food and medicine, nature conservation, and legal and regulatory frameworks. Despite their significance, these collections are often underappreciated and underfunded, with both the public and scientific community largely unaware of their importance and the insights they provide. This presentation outlines our approach to enhance the visibility and accessibility of natural history collections through a hosted portal in cooperation with the Global Biodiversity Information Facility (GBIF).

GBIF is an international network and data infrastructure that provides open access to biodiversity data from around the world. By publishing natural history collections data in GBIF, they become available for research, education, and policy-making. We show ongoing efforts in digitization and imaging at the Arctic University Museum of Norway, as a case to demonstrate how natural history collections can be made widely available. The hosted portal https://specimens.tromsomuseum.no/en currently gives access to 495.203 museum numbers, each of which can contain several specimens, within the zoological and botanical collections. Each record contains the data originally recorded on the label, and, if available, an image of the specimen.

Open access has increased the visibility and utilization of our museum records, contributing to 1.204 publications to date. This underscores the potential of open access in raising the profile of natural history collections. We aim to inspire greater engagement and support from the scientific community and funding

bodies. By emphasizing the importance of collections for scientific discovery and conservation we envision a future where natural history collections are actively used and well-funded. This vision supports a wide range of scientific and educational initiatives, ensuring that natural history collections continue to contribute valuable insights to our understanding of biodiversity.

11.05 – 11.25 **DiSSCo UK – unlocking impact from the UK's natural science collections**. Helen Hardy (NHM), Vincent Smith (NHM), Laurence Livermore (NHM), Sally Jennings (NHM), Tao Tao Chang (AHRC), & David Selway (AHRC): The Natural History Museum London and the Arts & Humanities Research Council

The Distributed Systems of Scientific Collections UK (DiSSCo UK) is a £155.6 million, ten-year programme to unlock impact from natural science collections UK-wide.

Having built evidence of current and future economic and environmental impact from collections digitisation, in this talk we will discuss how that evidence – including insights from the community - has been used to make the strategic and economic case for DiSSCo UK. This includes sharing the 20+ types of benefits identified, from collections management and capability improvements to policy and environmental gains, and how five of these have been monetised within the outline business case.

We will share further case studies from NHM and the wider natural science collections community, including pilots that showcase the potential for AI to help catalyse impact at scale. And we will provide an update on the overall progress of DiSSCo UK funding and planning, including next steps and how institutions can be involved, prepare for and benefit from DiSSCo UK, whether or not they receive direct digitisation funding.

11.25 – 11.45 **KISS* at the Dead Zoo [*keep it simple & sustainable]**. Paolo Viscardi & Aoife Hurley: National Museum of Ireland – Natural History

The National Museum of Ireland (NMI) takes sustainability seriously. We recently won a sustainability award for reducing energy use and CO2 emissions, and with major capital projects in train, we want to continue this success.

NMI – Natural History (AKA the Dead Zoo) is about to undergo its first major renovation since it was built in 1856, and we are presented with the opportunity to carry out an exemplar energy renovation project on a protected historic building that was originally constructed as a museum and will continue that use for generations. The work has three fundamental goals, 1) to improve accessibility, 2) to improve the environment for the collections, and 3) to ensure the historic building is fit for future generations to enjoy. To achieve this requires a huge amount of planning, with a wide variety of stakeholders – which requires clear messaging to ensure everyone is on the same page. Our main message is to Keep It Simple & Sustainable.

We want to retain the look and feel of our “museum of a museum”, but we want that to be a conscious and deliberate decision and not an artefact of benign neglect, as it has been until now. We are keen to avoid overreliance on air handling systems and high-tech interventions, since we know from the experience of others that these systems invariably fail and often cause significant problems that put collections at risk and are costly to rectify. As such, we aim to prioritise passive approaches to manage the environment where possible, with built-in solutions, and refitting of historic cases to provide additional environmental buffering.

To do this we want to involve our audiences, so as part of the project we are setting up an experimental exhibition space, to help inform how we can make our redisplay as accessible as possible while retaining the embedded carbon of existing display cases.

Second Session Repatriation

12.00 – 12.20 **Kākāpō, Kiwi and Tūī fly home: Colchester Museums’ repatriation of culturally significant bird specimens to Aotearoa New Zealand**. Sophie Stevens & Ricky-Lee Erickson: Colchester Museums and Tāmaki Paenga Hira, Auckland War Memorial Museum

This presentation will discuss Colchester Museums’ Collections Review of its Natural Science taxidermy which has led to the return of five culturally significant bird specimens to Aotearoa New Zealand.

On a list of around 300 taxidermy specimens identified for transfer were a kākāpō, a brown kiwi, a lesser spotted kiwi and two tūī. Through the NatSCA grapevine word reached Tāmaki Paenga Hira (Auckland War Memorial Museum) which holds a large collection of endemic New Zealand species. This unexpected request for transfer led us to review our process and to prioritise the transfer to New Zealand. This decision was made not just on scientific grounds but also because of the realisation that these specimens are taonga species and therefore of cultural significance to Māori and to Aotearoa New Zealand. Enabling the restitution/repatriation of such specimens has become a priority for museums across Aotearoa, and so sending these specimens back ‘home’ became a focus of this project.

We will present both perspectives of this significant project: from applying for re-export/import permits, navigating customs and even a change in New Zealand policy. By the time of the NatSCA conference the transfer will be complete, and we will be able share details of the ceremony releasing the birds back to their whenua (land).

12.20 – 12.40 **A restitutive commitment to community and to the natural environment through storying with natural history collections**. Pauline Rutter: Independent Academic & Archival Artist

The National Trust funded project, ‘From Collections to Connections’ (FCTC) was designed in 2024 as an archival art, natural history, environment and community connecting initiative. It began with detailed natural history research within the Brighton Booth Museum collections. The project then evolved in consultation with groups representing young people and families of our Black, Asian, dual heritage and minoritised communities. A decolonising approach informed all elements of this programme which offered opportunities for learning and sharing about natural history collections in relation to the Sussex South Downs and the communities which live in close proximity to the area.

Through this NatSCA presentation, I will explore the interdisciplinary approach of FCTC to the themes and practice of social justice, restitution, and decolonisation. I will investigate the questions that have been raised. How are collections made accessible to those who have no direct point of contact with them and who have felt largely invisible to the organisations that conserve them? How can such an interdisciplinary project connect people equitably and initiate new creative responses to histories, practices, research and project development across the disciplines and sectors engaged?

This is an invitation to examine how we draw together our commitments to community and to the natural environment, through expanded perspectives about natural history collections and the stories they tell. What is it to approach natural history collections through experiences that inspire new connections and intergenerational stories to be imagined and shared. ‘From Collections to Connections’ called on participants and audiences to combine scientific, creative, indigenous and ancestral curiosity. It has leant into the work of other researchers and creatives. It has aspired to seed interorganisational and intergenerational relationships that might lay paths to positive changes in our approaches to collections research, knowledge and lasting legacies.

12.40 – 13.00 **Natural history repatriations: how and why to do it**. Mike G. Rutherford: The Hunterian, University of Glasgow

The repatriation of museum objects back to their country of origin is a topic prone to much discussion and controversy and can often be a traumatic experience for those involved. Artworks, looted treasures and human remains are the typical items to be returned, and, in most cases, it is members of the source community who make the initial request. Holders of natural history collections have generally not been part of this discussion until recently, but they are in a good position to take a proactive approach, examine their specimens and looks at ways to start building relationships with source countries leading to mutual benefits.

The recent return of a 170-year-old specimen of the Jamaican Giant Galliwasp (*Celestus occiduus)* from Scotland to Jamaica was the culmination of a collaborative project between The Hunterian, The University of the West Indies and the Institute of Jamaica. This presentation will look at why this particular specimen was repatriated, how the relationship between the partners developed, what was done with the lizard before it went and what projects and uses for the specimen are planned for the future. This information will hopefully help and encourage other collections to undertake similar repatriations.

Third Session Stories our collections tell

13.45 – 14.05 **Women of the Riverflies: researching under-represented female naturalists and collectors in the NHMUK's Ephemeroptera, Plecoptera and Trichoptera collections: enriching party data in the museum's collection management system and increasing women's public profiles by creating Wikipedia biographies**. Louise Berridge: Natural History Museum, London

Using our in-house designed ALICE camera setup (see Price et al, 2018) the Digitisation Team at the NHMUK has photographed and then transcribed the labels from almost 74000 Riverfly specimens (Ephemeroptera, Plecoptera and Trichoptera, or E.P.T.). These insects are bioindicators: mobilising the geographical and temporal data from Museum specimens will facilitate longform studies of water quality and biodiversity, and aid efforts to prevent species extinction.

The Museum's E.P.T. specimens date from the Victorian era to the present day. There are approximately 1000 contributing individuals or institutions represented by the specimens: of these collectors only around 30 identifiable individuals are women.

Following a resurgence in efforts to increase the profile of women in science (e.g. Physicist Jess Wade's project to add more female scientists to Wikipedia), the project aim was to increase the profile of the female E.P.T. collectors and share their stories in an accessible way.

This paper will discuss methods that were used for researching female collectors, with practical advice for finding historical individuals and disambiguating them from similarly named people. It will look at available research resources, both free and paid for (with particular emphasis on researching U.K. collectors). There will also be discussion of how to find a person's points of notability for Wikipedia biographies. Compared with male collectors, it can be more challenging to uncover a historical footprint when searching for women who often worked unpaid and unpublished, or were married and represented by their husband's name. We will meet some of the NHMUK's female E.P.T. collectors who have been identified, and discuss some who remain a mystery.

14.05 - 14.25 **Nature's memory: how natural history collections help save the world**. Jack Ashby: University Museum of Zoology, Cambridge

People who work in museums know the value of our collections, but not so long ago we were despairing at how a common perception of natural history museums was that they were simultaneously "old-fashioned" and "just for kids". But in the last ten years, there has been a noticeable shift in recognising that these collections are the world's greatest evidence-base for some of the greatest challenges of our time – climate change and biodiversity loss. The hope is that, armed with more stories of how our collections can help save the world, more and

more decision-makers will comprehend the importance of supporting natural history collections.

In this talk, I'll share a series of examples of the impact collections-based research is making on understanding and mitigating environmental breakdown, which I came across whilst researching my new book, *Nature's Memory: Behind the Scenes at the World's Natural History Museums.* From herbaria aiding in the restoration of habitats after Australia's catastrophic Black Summer bushfires of 2019-20, to the discovery of populations of surviving critically endangered molluscs by following museum records, there is huge power in our specimens.

14.25 – 14.45 **Reimagining the collections of Thomas Pennant at the Natural History Museum**. Stephanie Holt: Natural History Museum (Curious Travellers Project), London

Thomas Pennant (1726-1798) was a Welsh naturalist, travel writer, and antiquarian. As the author of 'British Zoology', which appeared from the 1760s in multiple editions, he had an international network of correspondents and was an avid collector of natural history specimens. Many of these reached the Natural History Museum between 1911-1918 where, in line with Museum policy, they were dispersed between the various relevant departments across earth and life sciences. However, with a collection of over 80 million specimens to care for, the passage of over 100 years, and numerous curators overseeing the specimens, the collection as an entity created by a single 'author' has become harder to trace. As part of the AHRC-funded Curious Travellers project, we are reconnecting Pennant's collection digitally - discovering, narrating, and interpreting the stories of their acquisition, history, and modern conservation.

Working at the intersection of history, literature and natural history, Curious Travellers has been using travel texts and the material collections which derived from travel to explore contemporary challenges in conservation with new audiences, both public and academic. This paper examines some of the methodologies we have adopted: our current exhibition at Gilbert White's House enables visitors to explore specimens through 3D printed replicas and digital surrogates such as our 'Virtual Cabinet of Curiosities'; outreach events allow audiences to follow in the footsteps of White and Pennant; creative commissions bring new life and relevance to the collection by drawing on a rich contextual hinterland of eighteenth-century texts and images. In showing some of the ways in which we are using objects to refocus attention on Pennant, his work, his collection, and his legacy in modern ecology, this paper will consider how, by connecting our audiences to the past, we can also connect them to the future, and through this inspire them to take action for the planet.