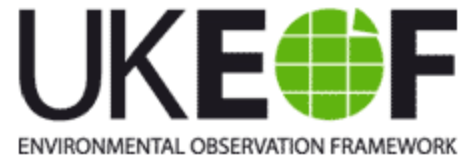


21st and 22nd February 2023



UK DNA Working Group Conference 2023

*With funding support from Natural England,
Environment Agency and Fera Science.*



Outline Programme

Tuesday 21st February

9.15 Registration

10.00 Welcome

10.15 Talks

11.15 Coffee

11.45 Talks

12.45 Lunch

1.45 Talks

3.00 Coffee

3.30 Speed talk

4.00 Poster session

5.00 Coaches to York

7.30 Dinner (optional)

Wednesday 22nd February

9.00 Registration

9.30 Talks

10.45 Coffee

11.15 Talks

12.30 Lunch

1.30 Talks

2.45 Close and coffee

3.00 Space available for group meetings

Detailed Schedule

Day/Time	Event	Who
Tues 21st Feb		
9.30-10.00	Registration	All participants
10.00-10.15	Welcome	Andy Nisbet, UKDNA Working Group and UKEOF David Phillips, Fera Science Ltd
10.15-11.15	Talks – Session 1	Chair: Andy Nisbet, Natural England An overview of major biodiversity genomics reference library infrastructure projects: DTOL, BGE, iBOL, ERGA <i>Peter Hollingsworth, Royal Botanic Gardens Edinburgh</i> Forestry England – how eDNA may guide our approach to nature recovery <i>Andrew Stringer, Forestry England</i> Introducing DNA methods into Natural England: lessons learnt <i>Debbie Leatherland, Natural England</i> Using DNA from pollen collected by honeybees to monitor long-term changes in the health of the countryside <i>Jennifer Shelton, UK Centre for Ecology and Hydrology</i>
11.15-11.45	Tea/Coffee & Networking	All participants
11.45-12.45	Talks – Session 2	Chair: Holly Broadhurst, University of Salford How replicate DNA metabarcoding can describe shifts in abundance of river macroinvertebrates <i>Alex Bush, Lancaster University</i> Multi-species on-site assessment and identification using CRSIPR for UK invasive species <i>Molly Ann Williams, NatureMetrics</i> Environmental DNA (eDNA) based decision-making – A framework to assign confidence in absence (CIADM) <i>Nathan Griffiths, University of Highlands and Islands</i> Factors influencing the precision and accuracy of metabarcoding of freshwater macroinvertebrates <i>Iwan Jones, Queen Mary University London</i>
12.45-1.45	Lunch Opportunity to tour Fera labs or mesocosm	All participants
1.45-3.00	Talks – Session 3	Chair: Lori Lawson-Handley, University of Hull Airborne DNA sampling: Introduction and application to bat monitoring <i>Joanne Littlefair, Queen Mary University London</i> Soil eDNA shows promise as a sampling method for terrestrial mammal surveys <i>Haley Craig, Forest Research</i> Molecular approaches to examine microbial diversity (long-term experimental sites) <i>Matais Fernandez, Fera Science</i> Monitoring terrestrial biodiversity using airborne eDNA <i>Christina Lynggaard, University of Copenhagen</i> Bringing historic collections into the genomic era <i>Ben Price, Natural History Museum</i>
3.00-3.30	Tea/Coffee & Networking	All participants

3.30-4.00	Speed talks	<p>Chair: Bernd Haenfling, University of the Highlands and Islands</p> <p>Darwin Tree of Life at the Natural History Museum: Results of barcodes for genomes <i>Inez Januszczak, Natural History Museum</i></p> <p>Development of methods using DNA metabarcoding for forest monitoring and assessment <i>Nadia Barsoum, Forest Research</i></p> <p>Pathway to Validation – Fera’s experience and what we’ve learned so far <i>Rebecca Weekes, Fera Science</i></p> <p>Unlocking the potential of DNA for monitoring within Natural England <i>Katie Clark, Natural England</i></p> <p>Microbiome analysis using the nf-core framework <i>Daniel Straub, University of Tübingen, Germany</i></p> <p>Proficiency Testing of eDNA for Great Crested Newts: Lessons Learned to Date <i>Stilian Hristov, Fera Science</i></p>
4.00-5.00	Poster Session	
5.00	Coach transport to York	
7.30	Dinner Malmaison, York	Optional

Day/Time	Event	Who
Wed 22nd Feb		
9.15-9.30	Registration	All participants
9.30-10.45	Talks – Session 4	<p>Chair: Kerry Walsh, Environment Agency</p> <p>Quantifying the impact of major cultural transitions on marine ecosystem functioning and biodiversity using ancient environmental DNA <i>Luke Holman, University of Copenhagen</i></p> <p>Two new methods for eDNA research: Sponges as natural DNA samplers and joint species distribution modelling (JSDM) for the analysis of metacommunity <i>Wang Cai, Liverpool John Moores University</i></p> <p>Using RPA-CRISPR-Cas for detection of subspecies lineages in aquatic eDNA samples <i>Darren Walsh, Dublin City University</i></p> <p>Using qPCR and metabarcoding to detect Atlantic bluefin tuna in the Irish and Celtic Seas <i>Phil Davison, Cefas</i></p> <p>Environmental DNA (eDNA)-based environmental monitoring around marine aquaculture sites <i>Thomas Wilding, Scottish Association for Marine Science</i></p>
10.45-11.15	Tea/Coffee & Networking	All participants
11.15-12.30	Talks – Session 5	<p>Chair: Hayley Craig</p> <p>Involving citizen scientists in environmental DNA monitoring of mammalian communities <i>Holly Broadhurst, University of Salford</i></p> <p>Genepools: investigating the life that dwells in garden ponds</p>

		<p><i>Harriet Knafler, Natural England</i> Molecular methods to aid management and better understand the threat from Asian hornets (<i>Vespa velutina</i>) in the UK</p> <p><i>Eleanor Jones, Fera Science</i> Spatial congruity across six kingdoms of alpine biodiversity</p> <p><i>Andy Taylor, The James Hutton Institute</i> Studying species diversity over space and time using DNA sequencing</p> <p><i>Lyndall Pereira da Conceicao, Wellcome Sanger Institute</i></p>
12.30-1.30	Lunch Opportunity to tour Fera labs or mesocosm	All participants
1.30-2.45	Talks – Session 6	<p>Chair: Jono Warren, Environment Agency Ecological surveys across arable landscape to detect vector-borne phytobacterium <i>Candidatus Liberibacter solanacearum</i> in the UK</p> <p><i>Marco Benucci, Fera Science</i> Future potential of metabarcoding data for river phytobenthos assessment</p> <p><i>Joe Taylor, UK Centre for Ecology and Hydrology</i> A comparative analysis of riverine eDNA metabarcoding and traditional freshwater survey techniques to describe the species community in the River Eden SAC</p> <p><i>Tom House, Arup</i> Understanding the spatial and temporal dynamics of environmental DNA for monitoring and management of the invasive zebra mussel (<i>Dreissena polymorpha</i>)</p> <p><i>Sara Peixoto, University of Hull</i> Trapped DNA fragments in archived marine sponges unveil north Atlantic deep-sea fish diversity</p> <p><i>Erika Neave, Liverpool John Moores University</i></p>
2.45	Close and Tea/Coffee	All participants
3.00	Hall and break out rooms available for UKDNA group meetings	

Posters (Title and Presenter)

Monitoring terrestrial rewilding with eDNA metabarcoding. *Clare Cowgill, University of Hull.*

A multi-disciplinary approach towards optimising eDNA sampling strategies in a strongly tidal UK estuary. *Jake Jackman, University of Salford.*

Optimising environmental DNA (eDNA) approaches for detecting semi-aquatic European mustelids. *Holly Broadhurst, University of Salford.*

What is an otter's favourite food? – A molecular investigation into the dietary preferences of the Eurasian otter (*Lutra lutra*) across the River Hull Catchment. *James Macarthur, University of the Highlands and Islands.*

Investigating the impacts of Eurasian beavers (*Castor fiber*) on migratory fish species and conservation priority mammals using environmental DNA. *James Macarthur, University of the Highlands and Islands.*

Evaluating Biodiversity Impacts of Beavers on Invertebrate and Vertebrate Communities Using Environmental DNA. *Tom Spencer, University of Hull.*

Effective biodiversity monitoring of river rewilding projects using eDNA modelling. *Claire Collins, University of Hull.*

Testing a DNA-based assay for understanding environmental drivers of community change in lakes. *Niamh Eastwood, University of Birmingham.*

Genomic Tools to Enable Epidemiological Monitoring of Eukaryotic Pests. *Sarah Griffin, Fera Science Ltd.*

Are you an environmental researcher needing help and training in genetic techniques? *Deborah Dawson, University of Sheffield.*

Urban Nature Discovery and Conservation using eDNA. *Stephanie Holt, Natural History Museum.*

Development of an isothermal RPA-CRISPR-Cas assay to detect European Sea Bass and assessment of its performance on a Lab-on-Chip system. *Paola Drago, Dublin City University.*

From microbes to holobionts in molecular biomonitoring. *Lauren Cook, Natural History Museum.*

Overcoming the pitfalls of merging dietary metabarcoding into ecological networks. *Jordan Cuff, Newcastle University.*

Using eDNA to assess suitability of woodland creation through natural colonization. *Rati Bell, Fera Science Ltd and Elena Vanguelova, Forest Research.*

Understanding the risk to crops of viruses affecting Apiaceae spp. in the United Kingdom. *Ines Vazquez, Fera Science Ltd.*

Attendance Details

UK DNA Working Group Conference at [Fera Science Limited](#), [York Biotech Campus](#), York Sand Hutton, YO41 1LZ - 21-22 February 2023


If you haven't yet booked your travel or accommodation, we hope you find the following information useful. If you have any further questions prior to arrival, please contact Andy Nisbet (Andy.Nisbet@naturalengland.org.uk) or Eleanor Jones (eleanor.jones@fera.co.uk).

Travel Information

York is ideally positioned in the heart of the country with direct rail links to London, Edinburgh and Manchester in around 2 hours. Manchester, Newcastle and Leeds/Bradford airports are all within easy reach and the ports of Hull and Newcastle are both within a two-hour drive. Further details on transport links to York can be found on the Visit York pages: [Find out more](#)

Plan ahead and check the [i-Travel York](#) website for the most up-to-date public transport and travel information.

Getting to and from conference venue (Fera)

Bus:  operate a regular service to/from York Railway Station to Fera, click [here for timetable details](#). Buses are every half hour and the journey takes around half an hour. You will be dropped off on the A64, a 5 min walk from Fera. Please take care crossing the A64, using the traffic island to do so safely.

York Taxi firms: Streamline Taxis: 01904 656565, Quick Cars: York 01904 798939, Fleetway Taxis: 01904 365365. The journey from central York to Fera takes between 20 and 30 minutes, but can be longer in rush hour traffic.

Accommodation

York offers a wide range of centrally located accommodation. As it is a small city, most central hotels will be within a 15 min walk of the railway station and dinner venue. Visit York has an accommodation search website here:

<https://www.visitork.org/business-directory/category/stay>

If you are travelling by car, a nearby option is Sand Burn Hall <https://www.sandburnhall.co.uk/hotel/>

Tuesday 21 February

If you are arriving by train you can either use a taxi or the [Coastliner](#) bus service to get to the site. Please note, in rush hour the journey can take up to 45 minutes from central York so we do stress the importance of leaving yourself sufficient time to get to the site.

Fera is a secure site. If you have arrived on foot (taxi, bus), please go to the security gatehouse office to gain access to the site. If you arrive by car, you may need to park your car and go to the gatehouse, or a security may be on foot, ticking off people as they arrive. You will need to do this on both days. The security gate will have a list of delegates. Please call 077 2016 9053 if you have any issues (number only available on the days of the conference).

Following this you will be directed to the main reception and lower floor of the conference building where you can pick up your identity badges and then make your way upstairs where teas/coffees will be served. Please keep your badge on you at all times throughout your entire stay.

At the end of the first day please leave your badges on the registration table.

Shuttle coaches have been organised (Tuesday evening only) to take any delegates requiring transport to a central drop off point in York, Memorial Gardens (TBC) to ensure all delegates arrive in York in time to check in to their hotels in time for dinner that evening.

Please make your way to the centrally located [Malmaison York](#) for dinner, served in the 'Work and Play' function rooms for 19:30.

Wednesday 22 February 2023

As per the arrangement for Tuesday, upon arrival, either bus/taxi or your own vehicle please make your way to the security gate office to gain access to the site.

Then make your way to the main reception and lower floor of the conference building where you can pick up your identity badges. Please keep these on you at all times throughout your entire stay.