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Human Functional Genomics Initiative Clusters

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26th April 2023



Agenda

1 Presentation (30 mins)

- Overview of scope, process, key details

2 Q&A (≈30 mins)

- Please utilise the Q&A functionality within zoom

The session is being recorded and a link will be provided after the session.

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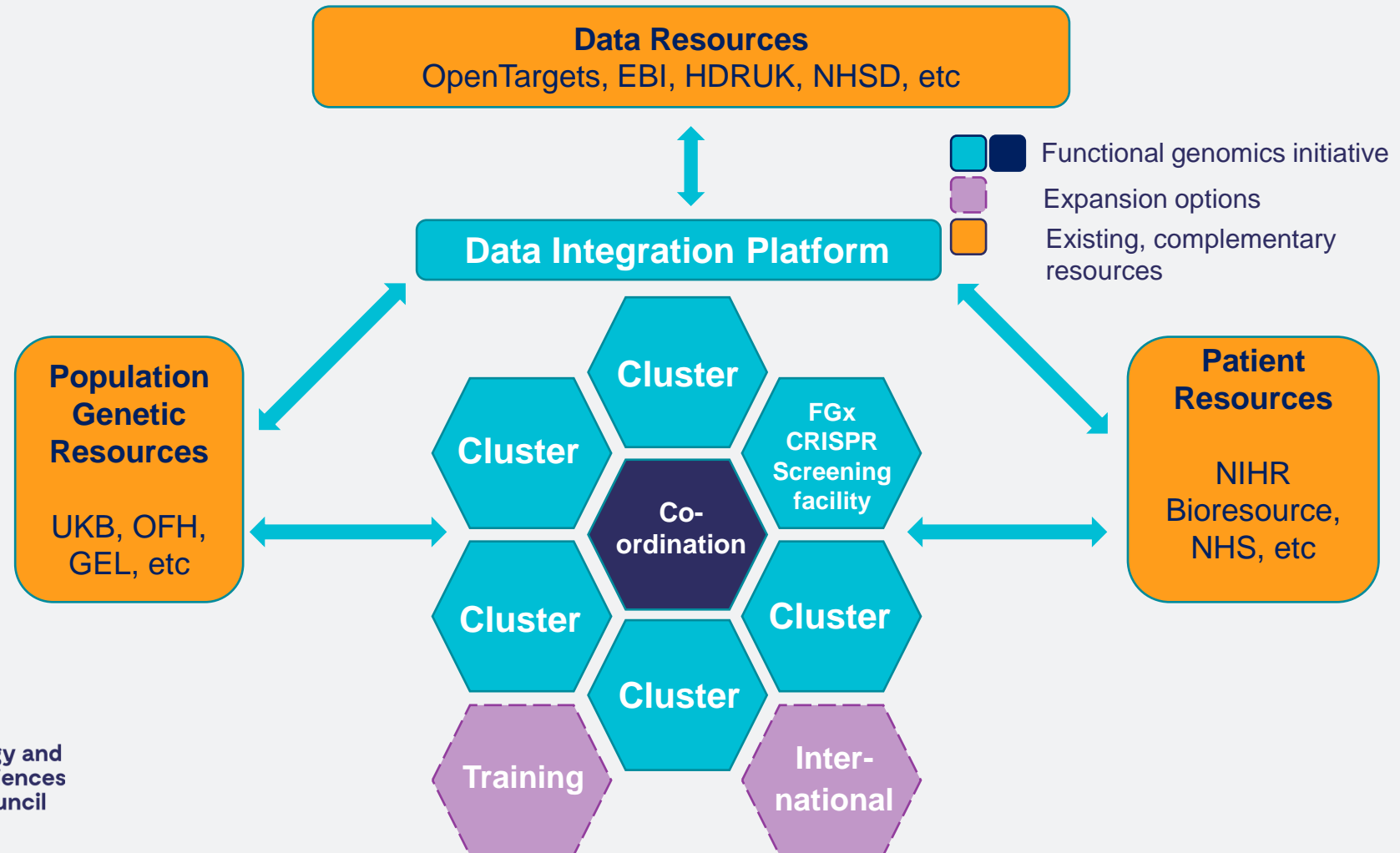


Human Functional Genomics Initiative

Led by Medical Research Council (MRC) with Biotechnology and Biological Sciences Research Council (BBSRC)

UK Strategic Reviews

- UK Innovation Strategy (2021). 'Genomics and Bioinformatics'.
- UK Life Sciences Vision (2021). 'Build on Clinical Research, Genomic and Health Data capabilities'.
- Genome UK Report (2020). 'Provider of world-leading genomic healthcare to patients'.
- MRC and BBSRC Strategic Delivery Plans (2022) 'Ideas, impacts, innovation'



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Scope

Purpose

- The [Human Functional Genomics Initiative](#) aims to **advance our understanding of the complexity of human physiology** and how it changes over time and in disease, by exploiting recent advances in our ability to explore how genetic variation impacts complex phenotypes.
- We are seeking to fund a **coordinated network of interdisciplinary clusters** to drive a greater understanding of physiological pathways, organs and systems in both healthy and disease states through functional genomics research.
- Recognising a **timely opportunity** to support functional genomics research as the convergence of recent advances in gene-editing technology, multimodal functional assessment at scale, artificial intelligence, and effective cell-based model systems.

Scope

Design

- Call scope constructed in consultation with an **independent external advisory group**.
- Representatives from **Academic, Industrial** and **Clinical** sectors.
- **UK** and **International** input.

Aim

- Boost UK functional genomic **capability and capacity**.
- Develop causal models of biological processes in health and disease for functional assessment and validation.
- Develop new high throughput perturbation and readout technologies and tools for data analysis.



Human Functional Genomics Initiative Clusters

Funds and Eligibility

- Total fund is up to **£16 million**. We will fund up to 80% of the full economic cost (FEC).
- Anticipate funding **4 to 5 complimentary clusters**.
- Individual award sizes of **between £2 million and £4 million**.
- Projects should start by **1 April 2024** and for a duration of **4 years**.
- Individuals and research organisations should adhere to standard [MRC funding eligibility](#).
- Applications can be from a single eligible organisation or a partnership of organisations.
- Businesses and international research organisations cannot apply to host an award, but can participate as project partners on an application led by an eligible UK organisation.



Scope

We will support

- **Ambitious** programmes focused on human physiology in health and disease with clear potential to catalyse a **step change** in functional genomics in one or more of the five following areas...
 1. *Platforms using **existing technologies at scale** to interrogate functional readout of genetic variation.*
 2. *Development of **novel and emerging tools and technologies** to enable functional genomics research.*
 3. *Development and application of **tools for analysis**, comparative analysis and interpretation of functional genomics data.*

Scope

We will support

4. *Research focused on the interplay of genetic variance and physiological pathways, organs and systems in both healthy and disease states, within the **correct biological context**. For example...*
 - i. *cell type.*
 - ii. *physiological and developmental states.*
 - iii. *stage of the life course.*
 - iv. *dynamic and spatial context.*
5. *Research enabling **development of translatable biological models** that delineate causal pathways.*

Scope

We will support

You should consider how your proposal **complements**, rather than duplicates existing infrastructure, initiatives and resources, including but not limited to...

- Joint AstraZeneca-Cancer Research Horizons Functional Genomics Centre
- Human Induced Pluripotent Stem Cells Initiative
- National Institute for Health and Care Research (NIHR) Bioresource
- NIHR-MRC Rare Disease Network
- Genomics England 100k Genomes Project
- UKRI artificial intelligence innovation to accelerate health research



Out of Scope

We will not support

- Functional genomics approaches in oncology. Greatest identified need for investment in non-oncology approaches.
- Proposals solely focused on high throughput arrayed or pooled CRISPR screening.
- Applications should primarily focus on human biological models and cells. Animal research that significantly enhances or complements activity may be considered.

functionalgenomics@mrc.ukri.org to discuss your application.

Other funding routes

We also support functional genomics research focused on specific pathways, systems, or organs through MRC Research Boards and BBSRC Research Committees.



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Eligible costs

*Cost breakdown not needed at EoI stage.

What costs we will fund

- Contribution to the salary of the principal investigator and co-investigators
- Support for other research and technical posts
- Research consumables
- Equipment
- Travel costs
- Data preservation, data sharing and dissemination costs
- Estates and indirect costs

What costs we will not fund

- Research involving randomised trials of clinical treatments
- Costs for PhD studentships
- Publication costs

Additional considerations

*Specifics not needed at EoI stage.

Collaborations

- Encourage the inclusion of project partners (UK or international) that will support the cluster through appropriate cash or in-kind contributions such as...
 - staff time*
 - access to equipment*
 - sites or facilities*
 - the provision of data*
 - software or materials*
- Encourage collaboration with both small and/or large companies, but it is not mandatory.
- Partnerships should be in line with [MRC's Industry Collaboration Framework](#).
- Encourage collaboration between academic and clinical sectors, where relevant.



Additional considerations

Principals of Participation

- Champion a **collaborative and open ethos** to accelerate the collective impact and reach of the initiative and sustainability of its outputs.
- Funded clusters to adopt an open and **transparent approach** to [data sharing](#) to enable access across the clusters, wider initiative and research community, as necessary.
- Full application to assess what you could **contribute to the initiative** and to other researchers in the field, and what you would **benefit from the initiative**. For example...
 - training*
 - knowledge exchange*
 - sharing of tools, models and data*

Additional considerations

Coordination and Leadership

We will support an **openly collaborative culture** to enable the clusters to be...

- i. engaged with each other.*
- ii. engaged with relevant UK capabilities.*
- iii. agile and responsive to emerging opportunities.*

Appoint a **director of the initiative**, the role of the director will be to...

- i. oversee and champion the coordination of the clusters, both within the initiative and with the wider academic, clinical and industrial research communities.*
- ii. advocate the principals of participation.*
- iii. respond to emerging opportunities.*
- iv. lead cluster engagement with an oversight board that reports to the funders.*

Additional funds will be available to the director to support these responsibilities.



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Additional considerations

Supporting Data Integration Platform

- Separate supporting data platform to curate, integrate and make available data generated via this **initiative and related efforts**.
- Data platform will be commissioned by the funders after the formation of the clusters. Valuable addition to the overall initiative. Identified as challenging activity to support via other funding mechanisms.
- Utilise the leverage of the clusters and broader initiative overall to aid wider **community buy-in** and **sustainability**.

Application Timeline

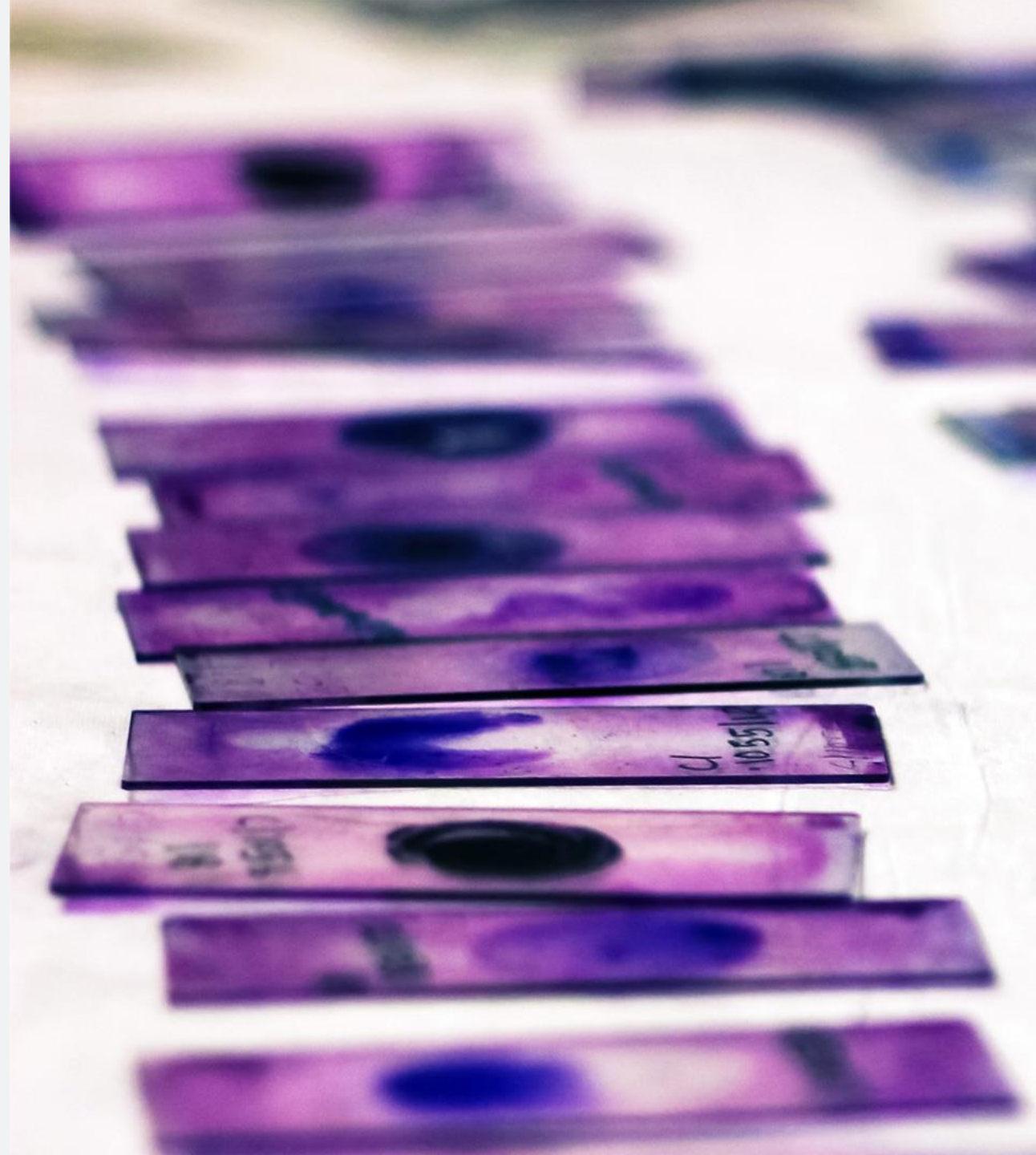
- 2 March 2023**
Opening date expression of interest
- 4 April 2023 9:00am**
Opening date & full details for full opportunity
- 4 May 2023 4:00pm**
Closing date expression of interest
- 27 July 2023 4:00pm**
Closing date for full opportunity
- Mid September 2023**
Expert Panel Meeting
- Late September 2023**
Award Notification
- 1 April 2024**
Latest Start Date



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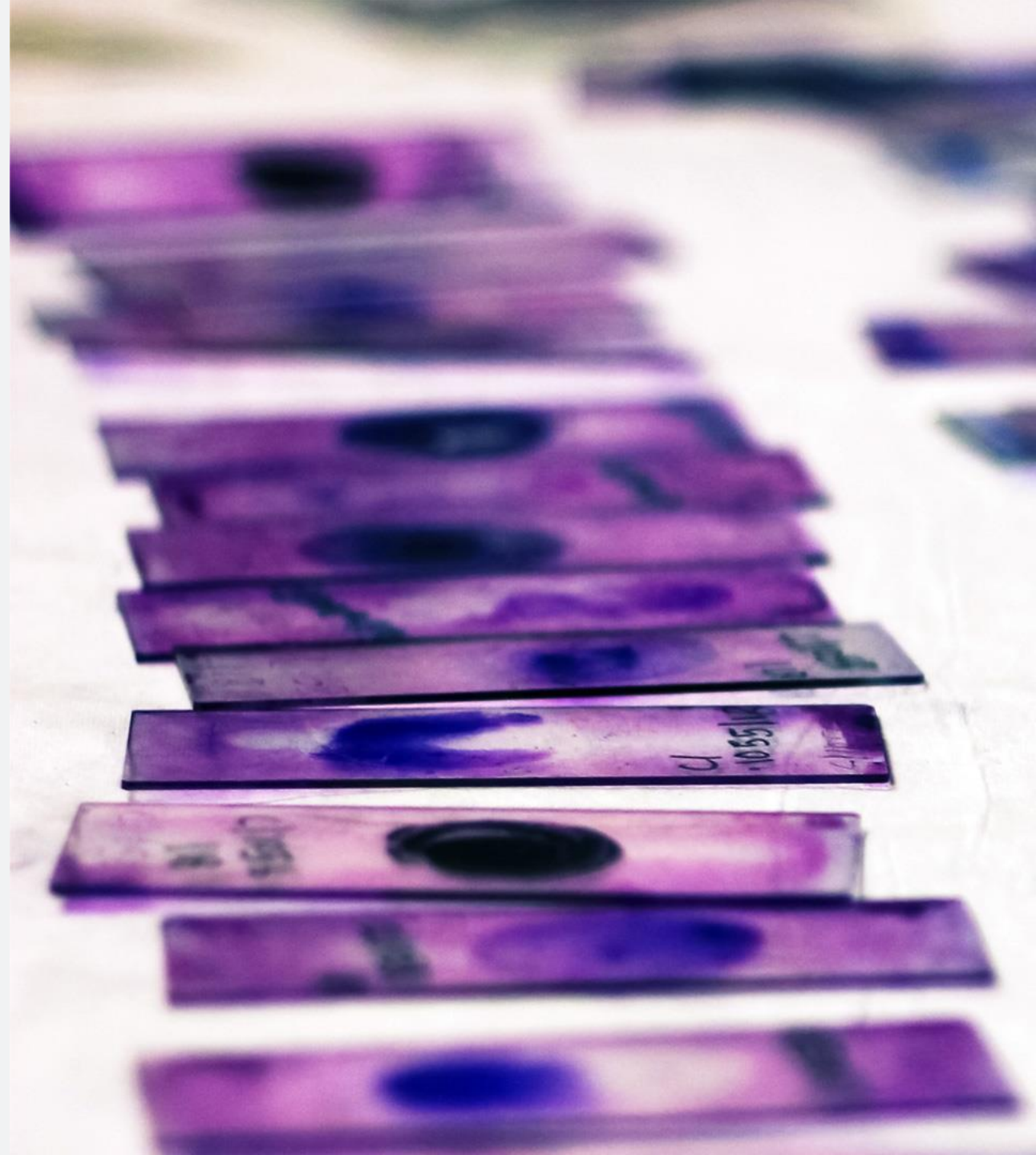


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Assessment Process – Stage 1: Expression of Interest

- Expression of interest stage is **mandatory**.
- Submit via **Joint Electronic Submission (Je-S)** system using [case for support template](#) on funding opportunity webpage.
- Individuals may only submit one expression of interest as a principal investigator, but may act as a co-investigator on additional applications.
- No limits on number of applications per organisation.
- Expression of interest deadline is **4 May 2023** at 4:00pm.



Assessment Process – Stage 1: EoI Case for Support

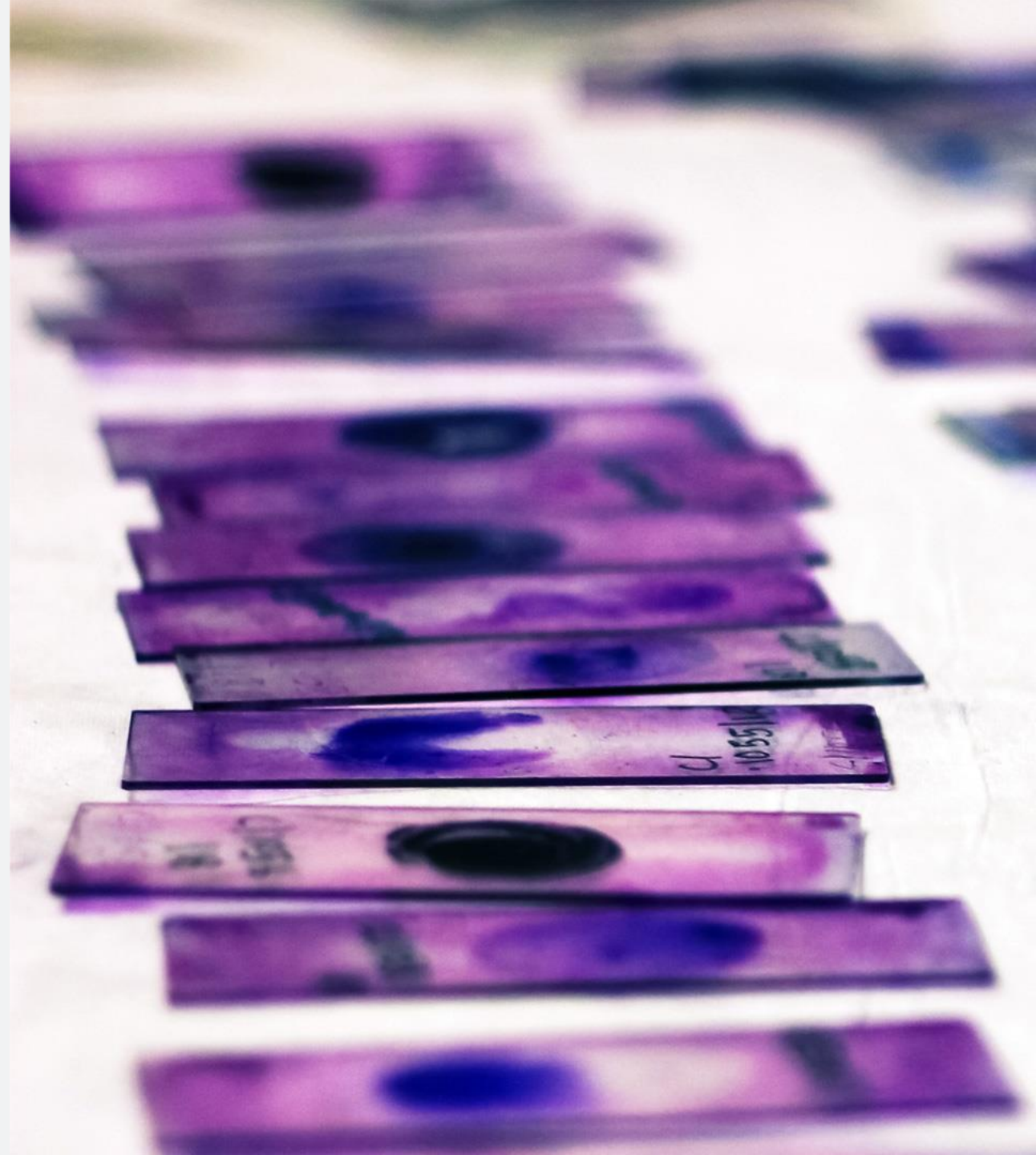
- Title (*indicative only*)
- [Project Partners](#) (*indicative only*)
- What is the long-term vision and how does this align to the remit of the call? (*max 300 words*)
- What are the core objectives to be delivered during the project? (*max 200 words*)
- What is your approach, how will you deliver against the overall vision and why is your team the right group of people to carry out the work? (*max one page*)



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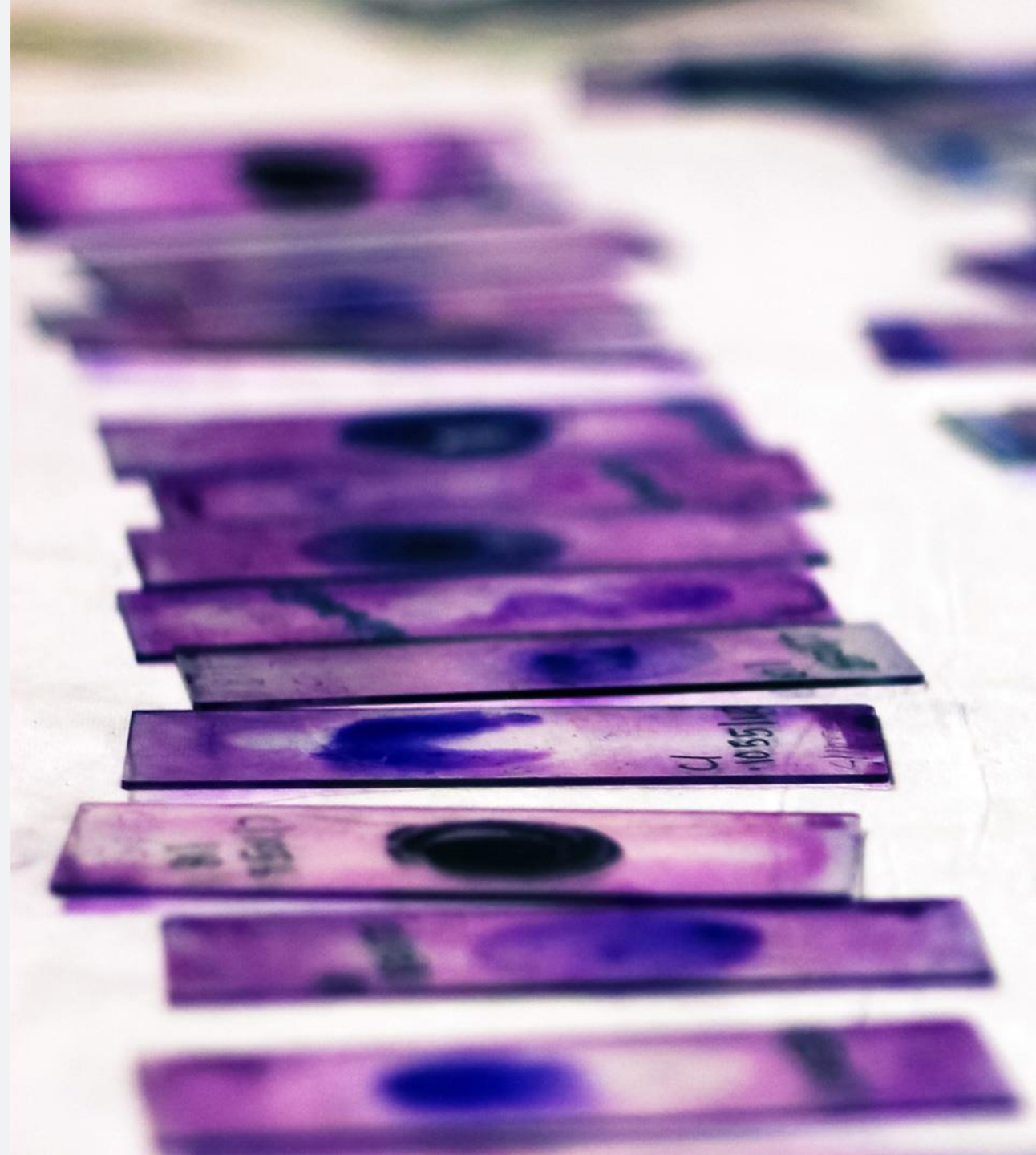
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Assessment Process –

Stage 1: Expression of Interest

- MRC & BBSRC will use this information.
 - i. check remit and fit to funding opportunity scope*
 - ii. anticipate expected submission levels*
 - iii. identify panel members*
- In the event of high demand we reserve the right to shortlist applications during the evaluation process.
- Invitations to submit full application communicated w/c 22 May 2023 via Je-S.



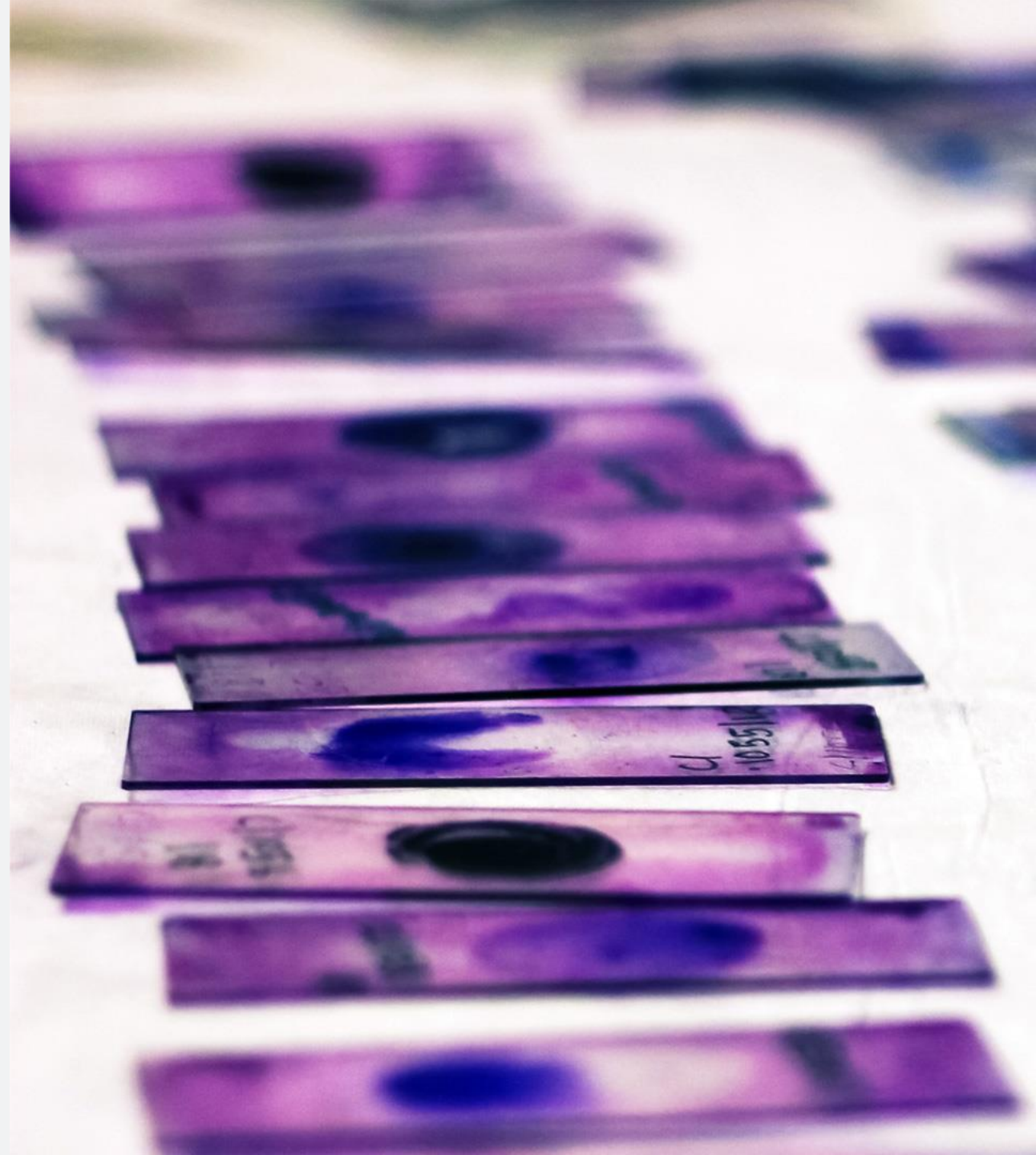
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Assessment Process – Stage 2: Full Application

- Full application is by **invitation only**.
- Submit via **Joint Electronic Submission (Je-S)** system.
- Further full application details now available on funding opportunity webpage.
- Full application deadline is **27 July 2023** at 4:00pm.



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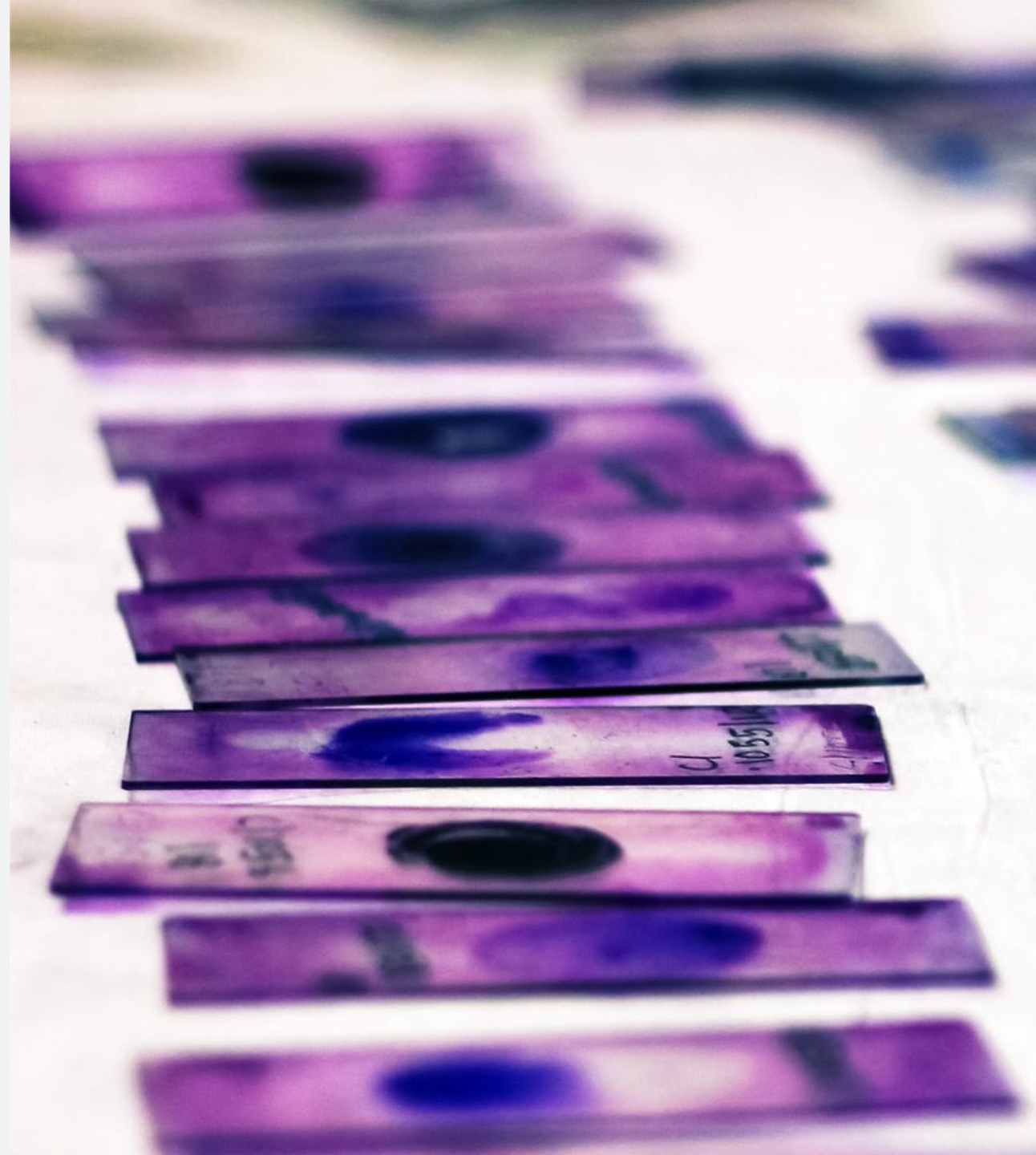


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Assessment Process –

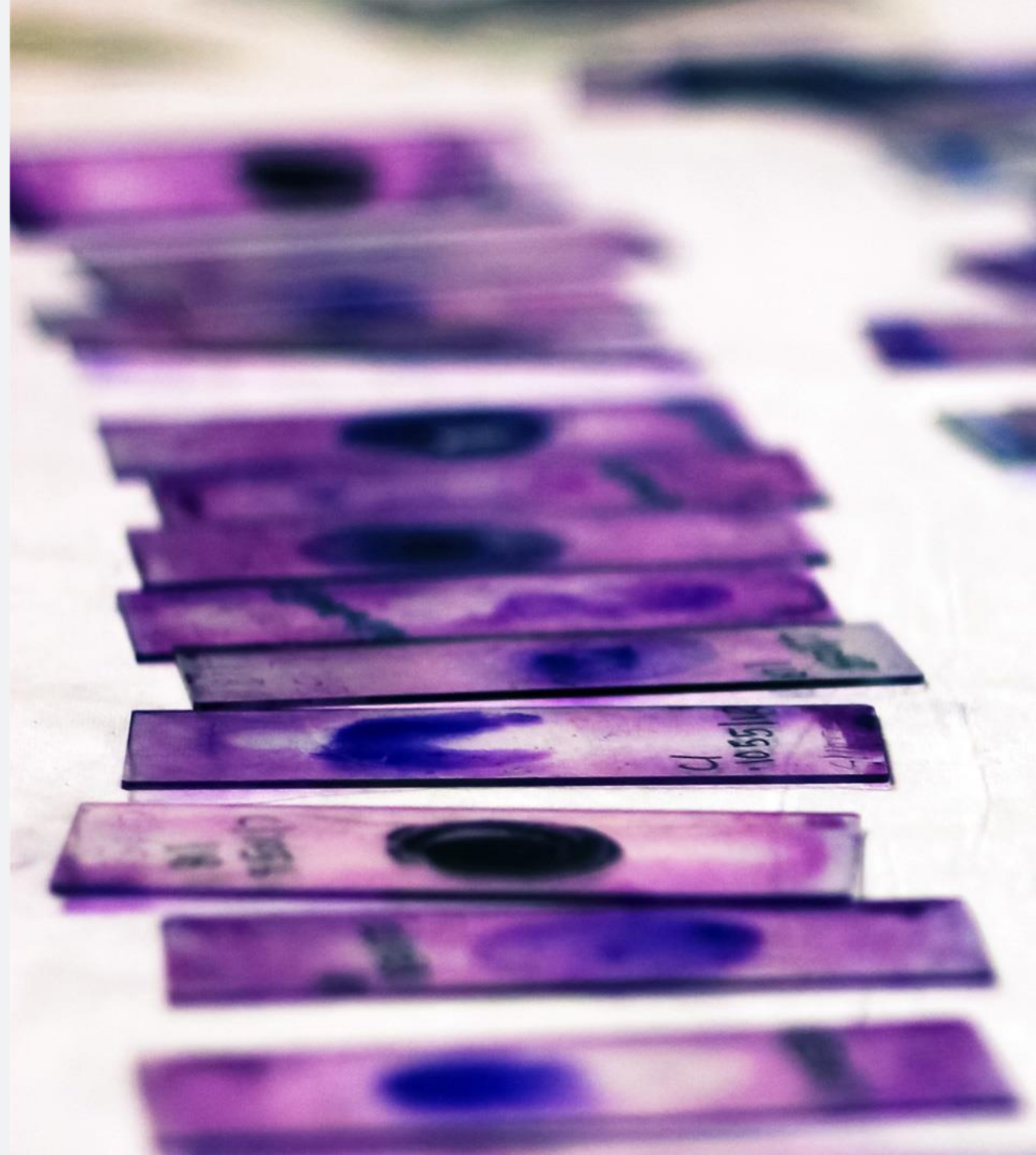
Stage 2: Full Application

- Additional **online event** for invited applicants.
 - Input from MRC/BBSRC.*
 - Input from panel chair.*
 - Input from initiative advisory group members.*
- Applicants offered an **option** to share a title, abstract and contact details with others
 - *Support early collaboration, and option to harmonise similarly developing proposals.*
 - *Unlikely to support multiple proposals with significant overlap.*
- Expect to **publish membership** of the expert review panel before the full application deadline.
 - Academic, industrial and clinical sectors.*
 - Research and technical expertise.*
 - UK and international representation.*



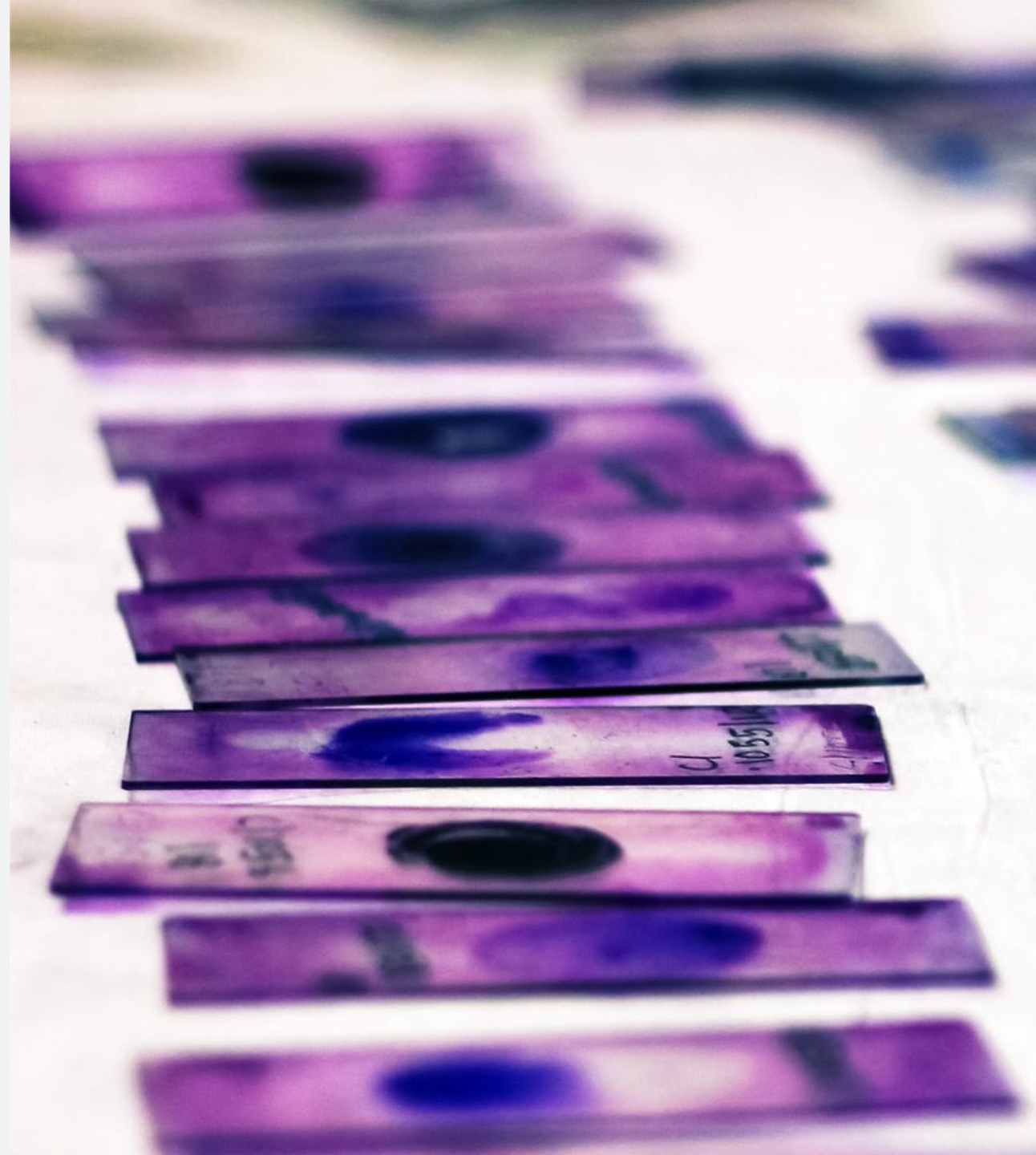
Assessment Process – Stage 2: Full Application

- The expert review panel will review your application against the **core assessment criteria**, including...
 - Importance*
 - Scientific Potential*
 - Research Quality*
 - Research Environment and People*
 - Impact*
 - Ethics*
 - Resources Requested*
- **Additionally**, the expert review panel will assess...
 - Collaborative potential*
 - Principals of participation*
 - Alignment and complementarity with other proposed clusters and resources.*



Assessment Process – Stage 2: Full Application

- An expert review panel will score your application against the **assessment criteria**, using the [MRC scoring matrix](#).
- Consider the score of each proposal and the potential **complementarity of clusters**, with the aim of supporting the **strongest possible portfolio**.
- Aim to communicate funding decisions by end of September 2023 and feedback if provided communicated by end of October 2023.
- Awards start by 1 April 2024 at the latest.



Contacts

Ask about this funding opportunity

Functional genomics team

Email: functionalgenomics@mrc.ukri.org

We aim to respond within five working days.

Get help with your application

For help on costings and writing your application, contact your **research office**. Allow enough time for your organisation's submission process.

Get help with applying through Je-S

Je-S Helpdesk

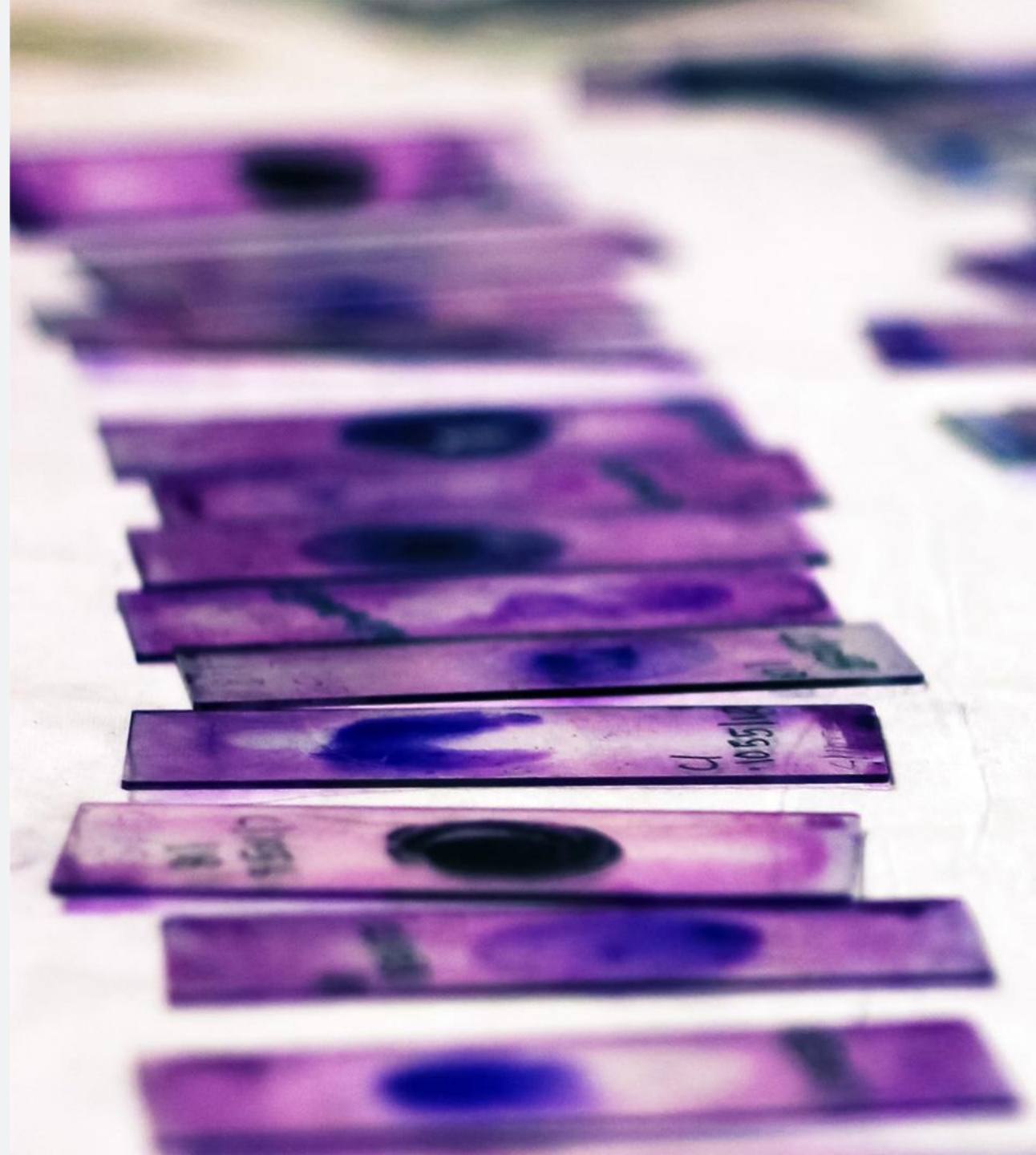
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Q&A Session

Please utilise the Q&A functionality within Zoom

functionalgenomics@mrc.ukri.org

Expression Interest Deadline: **4 May 2023**



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Thank you

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Expression Interest Deadline: 4 May 2023



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