



Medical
Research
Council

MRC Perspective

Dr Adam Staines

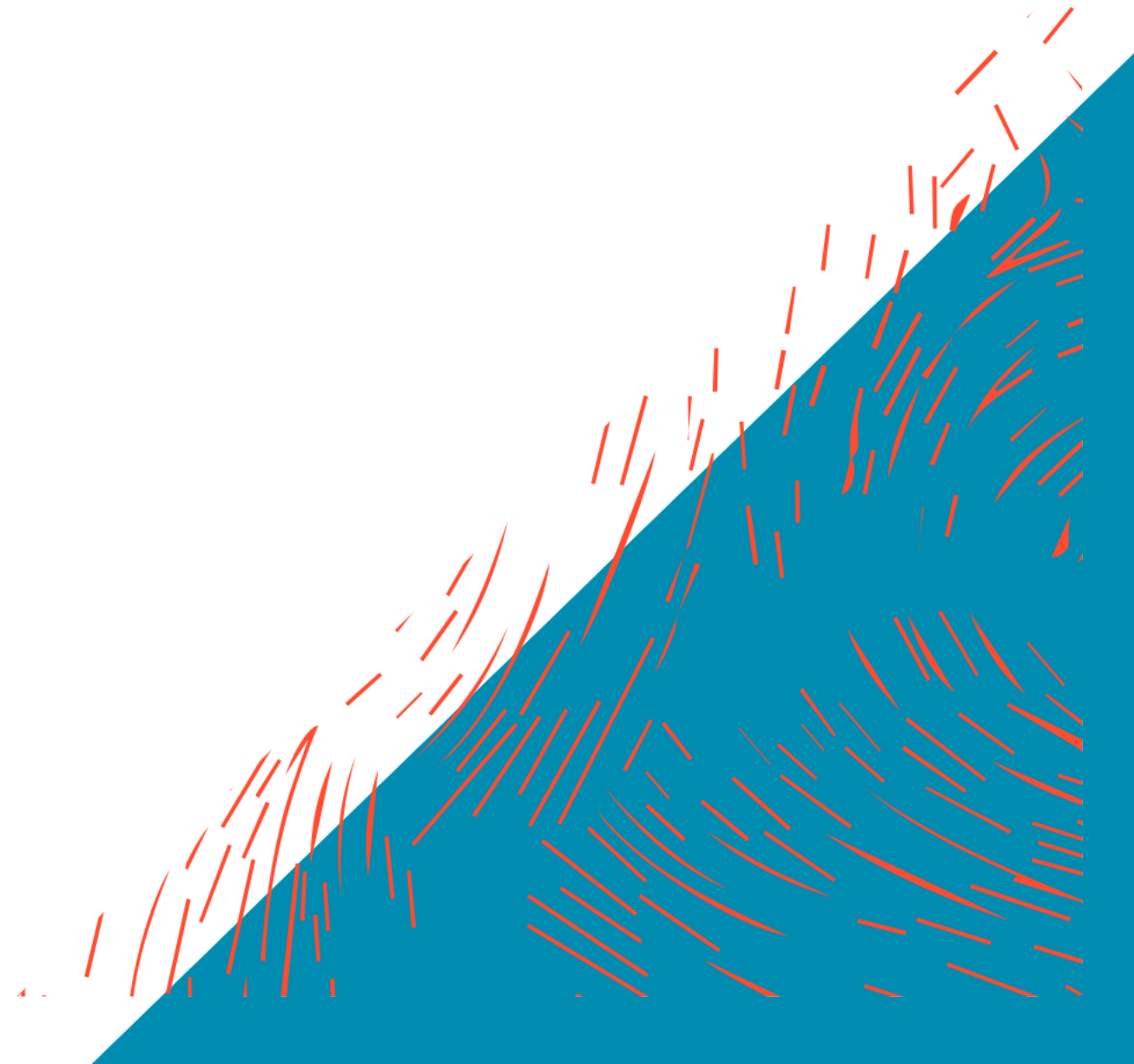
MRC Associate Director

MMC 2023

BioImagingUK Community Meeting



UK Research
and Innovation



UK Research and Innovation

We work with the government to invest over £7 billion a year in research and innovation by partnering with academia and industry to make the impossible, possible. Through the UK's nine leading academic and industrial funding councils, we create **knowledge with impact**.



**UK Research
and Innovation**

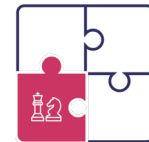
UKRI Strategy 2022-2027



UK Research
and Innovation

<https://www.ukri.org/publications/ukri-strategy-2022-to-2027/>

UKRI Strategy: Five strategic pillars



UKRI is the UK's largest public funder of research and innovation. We invest more than £8 billion pa to deliver **positive impacts for our society, economy and the environment**, fostering new knowledge, ideas and innovation that attracts and retains talent and businesses, making the UK the most competitive and creative country in the world.

The UKRI Strategy will describe how UKRI, working with our many stakeholders and partners across our communities, will drive UK research and innovation, contribute to the delivery of national priorities, and foster an increasingly diverse, connected and resilient R&I system that is at the heart of the UK's economic and social fabric, **connecting discovery to prosperity and public good** by:

1

Fostering a world-class R&I system

that is more diverse, connected and resilient, ensuring that the UK has the people, research and innovation culture, partnerships, **capabilities, and infrastructures** it needs to be a global science superpower, and to attract, develop and retain globally mobile talent and businesses.

2

Supporting great ideas

as the foundations of an inclusive, innovation-led economy. Advancing the frontiers of human knowledge and innovation, generating transformative and often unforeseeable economic and societal benefits, and enabling the UK to seize the opportunities from emerging research trends, ground-breaking discoveries and new markets.

3

Unleashing innovation

connecting across the R&I system to create the conditions and environments in all parts of the UK that drive innovation, enhance knowledge exchange / commercialisation, and enable the UK to secure competitive advantage in emerging technologies and market sectors.

4

Targeting national priorities

harnessing our research and innovation strengths to put the UK at the forefront of solutions to global challenges such as climate change, tackling infectious disease and security threats.

5

Improving how we work

leading by example in how we support our people, build trusted partnerships and engage with diverse communities, as well as streamlining our systems and processes for our staff, communities and partners, maximising our efficiency, effectiveness and value for money for the UK taxpayer

Our budget 2022-23 to 2024-25

Table 2: Budget across key spend areas

UKRI Budgets	Total (£m)			
	2021/22	2022/23	2023/24	2024/25
Core R&I Budgets	4,839	4,881	5,553	5,999
R&I Budgets – existing time-limited commitments (including COVID interventions)	355	140	135	151
Collective Talent Funding	571	599	670	726
Infrastructure	942	868	1,000	1,184
New cross-UKRI Strategic Programmes	0	100	247	464
Existing cross-UKRI Strategic Programmes	1,202	1,222	795	476
Centrally Managed Funding	195	330	231	195
UKRI Total^{8,9}	7,785	7,904	8,373	8,874

Infrastructure funding

- We will invest £2.9 billion over the three-year period in infrastructure funding.
- This includes:
 - £48m for the Carbon Zero Fund
 - £129m for the Digital Research Infrastructure Programme
 - £482m for the Infrastructure Fund
 - £370m for existing infrastructure investments
 - £129m for the UK Research Partnership Investment Fund (UKRPIF), managed by Research England
 - £1,070m for World Class Labs delivering through the seven Research Councils
 - £145m for capital for international subscriptions
 - £679m for Research Capital Investment Fund (RCIF) England: Higher Education Research Capital (HERC) England and HEI Research Capital England.

MRC annual equipment call

-£13M+ on bioimaging in 2022 call

- Next call will launch pre summer
- Please ensure to give sufficient attention to the **science, technical** details and the **management** plan
- The **panel will have significant technical expertise**
 - ensure you have technical input into the bid
 - be honest and admit limitations of the equipment etc.
 - ensure you discuss the technical support/expertise available
 - don't forget any training elements
- [A practical guide to applying for scientific kit – UKRI](#)

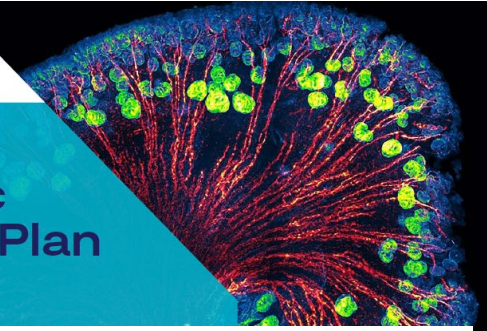
UKRI – Supporting world-class research at the life and physical sciences interface

- **Interdisciplinary, collaborative research** is critical to address life science challenges at the interface with the physical sciences
- The development of **novel disruptive tools and technologies** and **new shared approaches** drives world-leading life sciences discovery research, including **bio/medical imaging, analytical technologies, and AI and machine learning**
- UKRI has a **strong foundation** in this space with many **interdisciplinary investments**, such as:
 - Technology Touching Life (TTL)
 - SPF – Physics of Life (PoL)
 - UKRI call for basic technologies in sensing and imaging
 - UK Regenerative Medicine Platform (UKRMP)
 - Research Complex at Harwell (RCaH)
 - Multidisciplinary research institutes (e.g., LMB, Crick, RFI, Alan Turing Institute)



MRC Strategic Delivery Plan

Strategic Delivery Plan



Our purpose

Accelerating improvements in human health and economic prosperity by supporting world-class biomedical research and innovation, and strengthening partnerships within UKRI, across the UK and around the world.

Our principles for change – we will embed the principles of diversity, resilience, connectivity and engagement across all our work, to drive change and create the conditions for an outstanding research and innovation system

Our strategic objectives provide the framework for how we will achieve our vision and realise our principles, through world-class:

People and careers

Supporting the breadth and diversity of skilled people needed for the future R&D workforce; and advancing an open and collaborative research and innovation culture.

Places

Fostering local, national, and international partnerships; access to infrastructure, equipment and digital capabilities; and the sustainability and agility of our major investments portfolio.

Ideas

Funding world-class discovery science and driving an integrated understanding of human disease.

Innovation

Strengthening the translation of discovery science and experimental medicine; driving advanced therapies and innovative technologies; and broadening partnerships with industry.

Impacts

Promoting healthy ageing and reducing the burden of mental and physical illness; strengthening health equity and prevention; tackling infections; protecting human health in the face of environmental change; and progressing transformative technologies.

Supported by a world-class organisation

Strengthening equality, diversity and inclusion and enabling talented people to thrive; being an efficient, effective and agile organisation; and catalysing change and improving environmental sustainability through partnerships and leadership.

MRC Strategic Delivery Plan 2022-2025

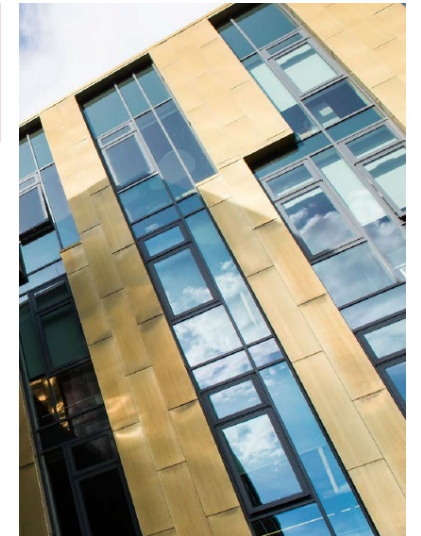


People and careers

- **Grow support for people and careers by 30%**, investing £80m pa through our fellowship panels and other support, and work across Councils on a **collective approach to talent**
- **Strengthen digital and data science skills** as well as recognition of team-based approaches across the range of biomedical research
- Promote an **open science culture** and culture where **public and patient involvement and engagement** is an integral part of research and develop and implement guidance on **increasing diversity** in research design

Places

- **Embed place considerations** in a broader range of our investment decisions and develop and harness distributed national capabilities for example through our partnership institutes, **new Unit funding model** and other new strategic initiatives
- Strengthen **International partnerships** with emerging and established science nations and in global health research, including through the Applied Global Health Research Board
- Run an **annual call for mid-range equipment**, open to all UK ROs, and ensure the effective delivery of **large UKRI infrastructure investments** in population health sciences (PRUK, AHS, UKB), imaging (11.7T MRI, total body PET) and digital capabilities (DARE UK)



Training and Careers

Collective working in talent

- UKRI transitioning to Collective Talent Funding model for talent initiatives > a long-term programme of change
- Co-design where relevant but ongoing need for council-specific schemes eg: clinical academic training

Increased support for fellowship schemes

- 30% increase in budget maintained for fellowship schemes for the new FY
- Near doubling of support for clinical academic careers from ~£20M in 2017/18 to £38.5M in 2022/23

PhD Stipend

- Minimum stipend for 2023/24 to increase by 5.4% to £18,622 – no planned decrease in student numbers

Policy engagement

- Working with ESRC on Thematic Research Leads (CSA-like positions) within Parliament
- Allows mid-career researchers to bring academic expertise and experience of working with research evidence to Parliamentary policy, research and analysis work

Biomedical Data Science Initiative (£2m)

- Coalesce existing excellence to underpin a future multi-partner national initiative
- Pre-announcement Summer 2023 and call opens Autumn 2023



Sustainability

Sustainability across MRC's estate

- Feasibility study completed to show pathway to net zero carbon (2040 target) and greater environmental sustainability
- FY 2023-25 – Translation of feasibility to project development and continued delivery of carbon reduction projects

Landscape Review

- [Questionnaire](#) launched to review sectoral challenges to environmental sustainability and identify areas for future funding

Environmental Sustainability Concordat

- UKRI concordat under development with HEI partners to establish a set of sustainability principles for all parties to follow
- Publication intended in late 2023

Seminar series

- Regular MRC Environmental Sustainability Seminars
- To attend future seminars contact elena.dimitrova@mrc.ukri.org



Multimodal, multiscale research for an integrated understanding of human disease

- **Integrating experimental data** from **multiple modes and scales** (space and time) to link the fundamental units of life in molecular biology and genetics through to higher organisational levels (cell, tissue, organ, organism, population)
- Depends upon the development and application of advances in **tools, technologies and methodologies**, and innovation in technologies that are **correlative across biological scales**
- **Cross-disciplinary collaborative teams** with expertise in areas such as life and clinical sciences, engineering, physics, advanced experimental technologies, and data and computational science
- **Complements** Government's **UK Innovation Strategy** technology families (AI, engineering biology), and **contributes mechanistic understanding** to underpin the Government's Healthcare Missions in the **Life Sciences Vision**

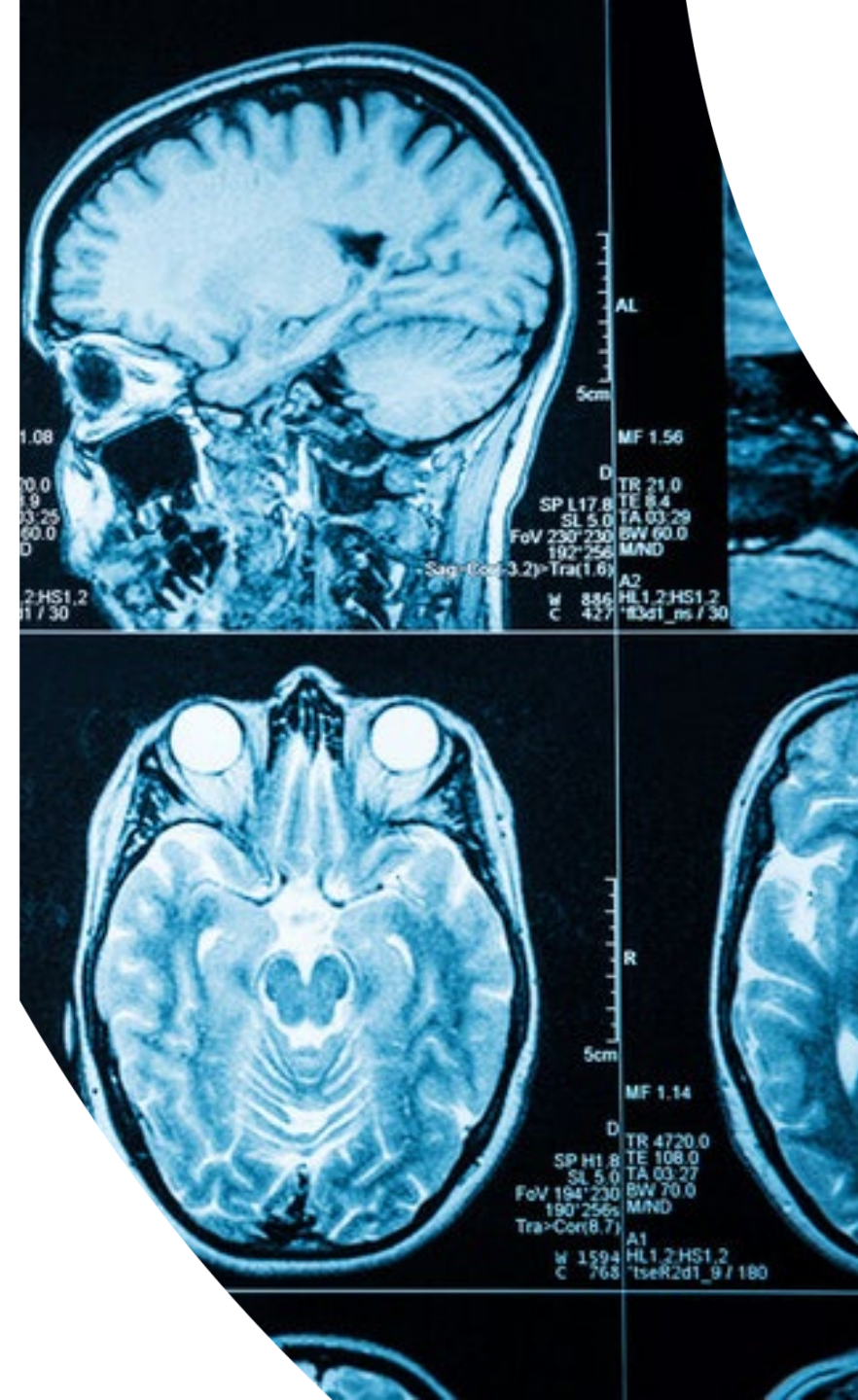
Strategic Initiatives

Human Functional Genomics - £16m, 4 years

- Support for a coordinated network of 4-5 interdisciplinary clusters to:
 - boost UK functional genomic capability
 - develop causal models of biological processes in health and disease
 - develop new high throughput perturbation and readout technologies
 - provide new insights into the interplay of genetic variance and physiological pathways, organs and systems in both healthy and disease states

Neurodegeneration Initiative

- Announced in 2022, £95m public funding (MRC, IUK, NIHR), partnered with industry, to enable and accelerate the development of precision therapeutics
- To be set up as a PPP, anchored to and synergistic with the UK's dementia research ecosystem
- Focus on clinically-validated biomarkers for patient stratification, to predict and measure disease trajectory and trial efficacy, underpinned by data science



Tackling Infections

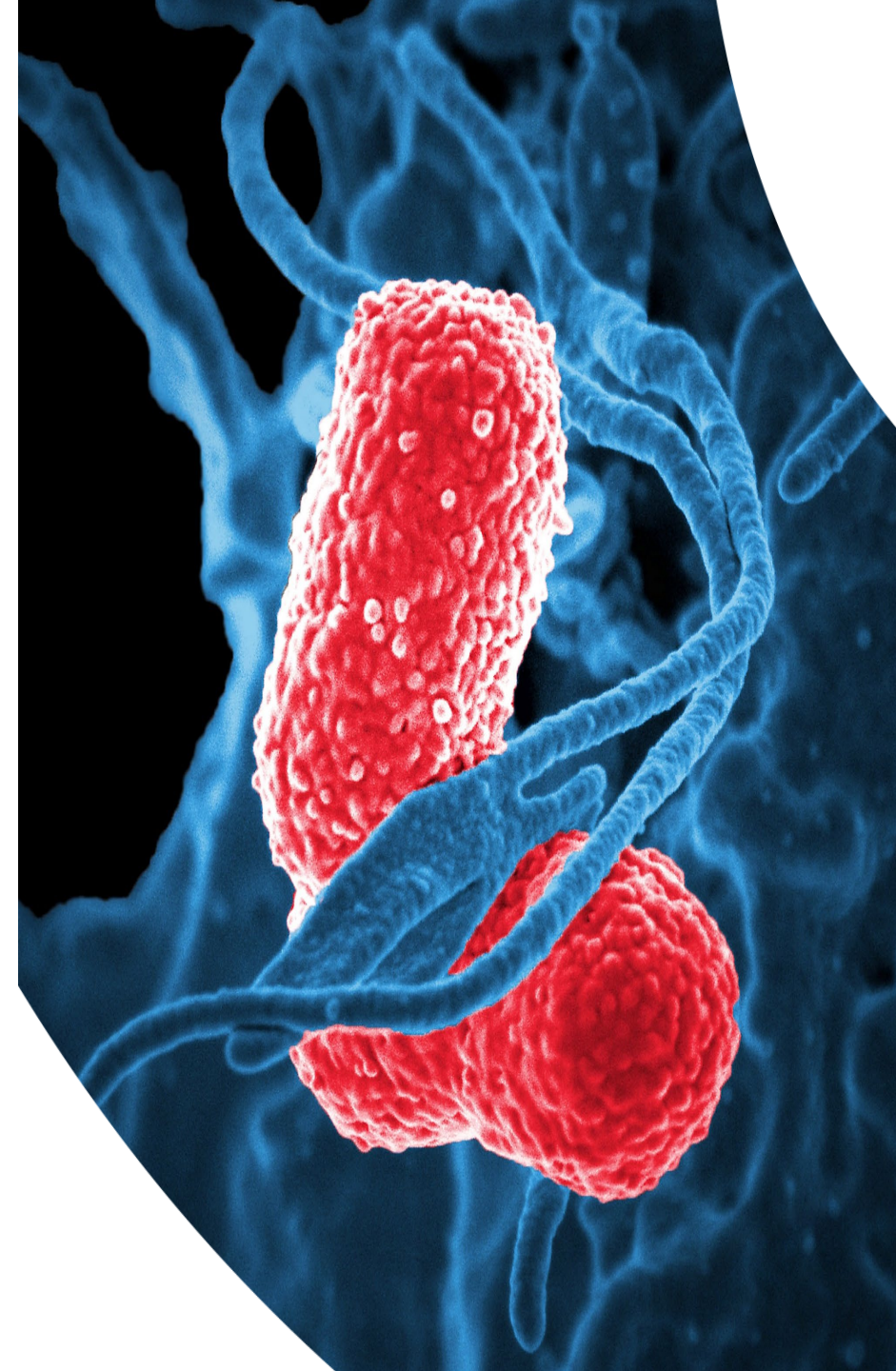
Cross-UKRI funding for new interdisciplinary research and innovation addressing infections disease threats.

Flagship initiatives – to be launched in summer 2023

- **Epidemic Preparedness** £20m initial budget
Improve understanding, prediction, and prevention of diseases with epidemic potential
- **Antimicrobial Resistance** £10m initial budget
Build and nurture interdisciplinary research capability for innovative and effective AMR solutions

Amplification of existing strategic plans, e.g.

- MRC-led Proactive Vaccinology call
- Urgent avian flu research and innovation
- BBSRC-led vector-borne disease call



Securing better health, ageing, and wellbeing

Improve population health, tackle the health inequalities affecting people & communities, & advance interventions that keep us healthier for longer

Subthemes

- **Population Health Improvement/health inequalities** £42m

A [challenge-led network](#) to progress interventions that benefit the health of populations and close the gap between the richest and poorest; and a [centre in climate change and health](#)

- **Ageing throughout life** £11.5m

Co-ordination and [research to probe the biological mechanisms of ageing](#), including environmental, social and cultural influences; aiming to develop interventions that will keep us healthier for longer

- **Mental Health** £25m

New [mental health research platform](#) to harness and share a wide range of data and key capabilities to advance the detection, prevention and tailored treatment of mental illness

- **Digital Health**

Amplify research activities in advanced data science and digital health to bolster UK strengths and promote new health care innovations; including data capabilities as part of a [Human Functional Genomics Initiative](#)



Innovation

Advanced therapies

- Strategic priority area and significant UK strength
- Advanced Therapeutics Task Group (ATTG) established to help shape MRC approach - recommendations by **Q1 2023**

Supporting industry partnerships and commercialisation

- Industry-academic collaborations through Industry Collaboration Framework
- Recently launched pilot business engagement fund – trialling in NMGN
- Working with IUK to support academic involvement in healthcare accelerators – launched May 2023

MRC-NIHR Rare Diseases Platform

- Awards made to 11 “nodes”, each delivering networking and 2-3 enabling science projects within an identified domain
- A coordinating Hub will engage with the wider stakeholder community across the full range of rare disease research interests



Horizon Europe

Horizon Guarantee Scheme

- Provides funding to researchers unable to receive their Horizon Europe funding during association process
- [Scheme](#) extended until **30 September 2023**

EU Association v. Plan B – Pioneer

- Discussions on Horizon Europe in a more positive place
- Plan A is for the UK government is to associate to Horizon Europe
- Plan B “[Pioneer](#)” developed in the event that we are not able to associate - published April 2023
- Four interconnected offers for the research community through the scheme: talent, global, innovation and R&D infrastructures



UKRI calls

Cross research council response mode funding call [\[Link\]](#)

- Supporting breakthrough or disruptive interdisciplinary ideas not routinely funded through existing UKRI responsive mode schemes
- £65m available across two pilot rounds; 36 awards anticipated in first round
- Open to ideas with no clear 'lead' UKRI research council for responsive mode funding
- Existing council responsive mode schemes continue and remain open for interdisciplinary research applications – duplicate submissions not permitted
- Outline applications by 20 July 2023; invited full applications in Nov 2023
- Assessment College - UKRI appointing c200 members, and c20 chairs; Applications closed June 2023; appointments made July

Moonshots for the UK [\[Link\]](#)

- UKRI seeking help to identify ambitious ideas to help solve the big challenges we are facing today
- First stage open now, closing Monday 10th July – [submission form](#)
- Contact moonshots@ukri.org; Further Information on UKRI [website](#)



Funding opportunities for early career researchers

- **UKRI Future Leader Fellowships Round 8 closes 4th July**

The FLF scheme provides long-term support for early career researchers to enable ambitious programmes or multidisciplinary questions, and new or emerging research and innovation areas and partnerships

- **Pre-announcement: MRC fellowships live**

- **MRC Career Development Award MRC New Investigator Research Grant (NIRG):**

- NIRGs are normally of 3 years duration and support up to 50% of individuals' time. The remaining time (and salary) must be underwritten by host institute.
- Skills and experience match the transition to independence [career stage](#).
- No eligibility rules based on age or years of postdoctoral experience.
- NIRG Scheme guidance and short video: [New investigator research grant \(NIRG\) – UKRI](#)
- Similar New Investigator schemes exist at the other UKRI councils – for detailed information, please contact the relevant council
 - **BBSRC**: New investigator scheme
 - **EPSRC**: New investigator award
 - **MRC**: New investigator research grant



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Thank you



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