



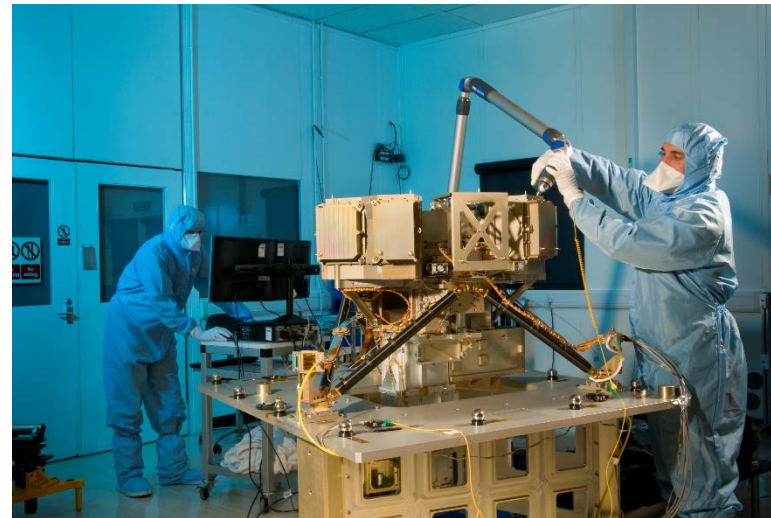
# SWIMMR

Project funded by Strategic Priorities Fund (SPF)

**Prof Chris Mutlow**

Director, STFC-RAL Space

**SWIMMR Senior Responsible Owner**



The **Strategic Priorities Fund (SPF)** is being led by UKRI to:

- ✦ drive an increase in high quality multi - and inter-disciplinary research and innovation
- ✦ ensure that UKRI's investment links up effectively with government research priorities and opportunities
- ✦ and ensure the system responds to strategic priorities and opportunities.

SPF builds on Paul Nurse's vision of a "common fund", to support high quality multi-disciplinary and inter-disciplinary research programmes, which could have otherwise been missed through traditional funding channels.

Other similar funding streams include the Industrial Strategy Challenge Fund which is directed at developing strategic capabilities in industry

All of UKRI's councils along with six BEIS-funded bodies (Government Office for Science (GO-Science), Met Office, National Nuclear Laboratory (NNL), National Physical Laboratory (NPL), UK Atomic Energy Authority (UKAEA), and UK Space Agency (UKSA) are eligible to develop proposals for programmes of research in any area which would address one or more of the objectives listed above.

- ✦ They sought input from across the research community and, when appropriate, **advice from government departments to ensure alignment with government priorities.**
- ✦ Research programmes were selected through a competitive process and required to meet at least one of the three SPF objectives. An assessment panel was established and convened twice to consider the programme proposals in two separate waves.
- ✦ Many of the programmes have involved collaborations with a variety of government departments to incorporate a rich landscape of research interest, with the intention that research results will enhance policy development.
- ✦ Funding has been awarded in two waves across the research spectrum.

- ❖ Clean Air: Analysis & Solutions: Developing solutions to air pollution to help policymakers and businesses protect health and work towards a cleaner economy.
- ❖ UK Climate Resilience: Harnessing multidisciplinary expertise to deliver robust climate risk and solutions research, which ensures the UK is resilient to climate variability and change, and powerfully positioned to exploit the opportunities of adaptation and green growth.
- ❖ Constructing a Digital Environment: Applying the latest technologies to environmental data from sensor networks across the UK to deliver information in unprecedented detail.
- ❖ Landscape Decisions: Developing a new understanding to help individuals, communities and country make the best choices regarding land use in the UK.

- ✦ Physics of Life: The research areas that will be supported are those that bring together the tools and capabilities of the physics community to tackle key questions in biological and biomedical sciences.
- ✦ EMBL-EBI investment: Improving understanding of how genetics affect the health of humans, plants and animals.
- ✦ UK Animal & Plant Health: Research to counter diseases that threaten crop production, forestry, commercial and amenity horticulture, woodlands and wider biodiversity with severe economic, environmental and social impacts.
- ✦ Human Cell Atlas: Supporting the UK's role as a key partner in the ambitious global Human Cell Atlas initiative.

- ✦ Living with Machines: Data scientists, historians, computational linguists, geographers, and archivists will collaborate to better understand the social and cultural impact of the mechanisation of work - a move that changed our world and the way that we live forever.
- ✦ AI and Data Science for Engineering, Health, and Government: Aimed at supporting a range of objectives covering four high-priority areas, with the aim to transform engineering & urban planning, health, physical & life sciences and criminal justice.
- ✦ Ensuring the Security of Digital Technologies at the Periphery: This programme aims to ensure that Internet of Things systems are safe and secure, particularly as more critical applications emerge meaning there is increased vulnerability to broader, more sophisticated cyber-threats.



# Wave 2 Programmes Announced

- ✦ Policy and Evidence Centre for Modern Slavery and Human Rights
- ✦ Nucleic Acid Therapy Accelerator: 'NATA'
- ✦ The Advanced Pain Discovery Platform
- ✦ UK Centre of Evidence Implementation in Adult Social Care
- ✦ Tackling Multimorbidity at scale
- ✦ Greenhouse Gas Removal Demonstrators.
- ✦ Clean Air: Addressing the Challenge of the Indoor/Outdoor Continuum
- ✦ A food systems approach for healthy people and a healthy planet
- ✦ National Interdisciplinary Circular Economy Research Programme:
- ✦ Sustainable Management of Marine Resources:
- ✦ **Space Weather, Innovation, Measurement, Modelling and Risk**

SWIMMR (Space Weather Instrumentation, Measurement, Modelling and Risk) is a £20 million, four-year programme that will improve the UK's capabilities for space weather monitoring and prediction.

- ✦ The very focussed programme has been developed in close association with the Met Office Space Weather Operations Centre (MOSWOC) and the wider community, including Government and academia, so UKRI's investment is tailored to government research priorities and needs.
- ✦ As well as improving the the ability of the Met Office to predict space weather events so as to reduce their potential impact, it will also deliver critical information for BEIS, DfT, and MoD to help these departments mitigate the significant risks recorded in the UK's National Risk Register space weather poses to the infrastructures we rely on in daily life.
- ✦ This programme will significantly add to the UK's capability to predict and mitigate the hazards of space weather, as well as providing a basis for wider international collaboration.
- ✦ SWIMMR was funded by SPF because of its focus on the key deliverables needed by government and the user community – the expected deliverables are critical to the success of the project



**The programme will be delivered through a series of activities managed by either STFC or NERC.**

- ✦ Emphasis is on space radiation, which can affect aircraft systems, changes in the upper atmosphere, affecting communications, and surges in the current in power grids and other critical ground-level infrastructure and systems
- ✦ The STFC funding component will be delivered via a mixture of
  - ✦ open calls for research projects and
  - ✦ commissioned work under standard public sector procurement rules.
- ✦ Both types of activity will directly help improve the ability of the Met Office to predict space weather events so as to reduce their potential impact.
- ✦ Funded projects will be held to formally accountable for their deliverables against an agreed timetable of milestones – **this is not a blue sky research programme.**