Prof. Sir Ian Chapman,
UK Research and Innovation,
Polaris House,
North Star Avenue,
Swindon,
SN2 1FL

3rd February 2026

Subject: Safeguarding Fundamental Science as a Strategic Asset for UK Growth

Dear Prof. Sir Ian Chapman,

We write as early-career researchers within the Particle Physics, Astronomy and Nuclear physics (PPAN) community from across the United Kingdom (UK), in response to recent announcements on UK Research and Innovation's investment approach and the emerging funding architecture for the 2026–2030 period. UKRI has set out a transition toward a more focused, outcomes-driven funding model, alongside statements that overall investment is rising and that curiosity-driven research remains protected.

However, we are concerned that aspects of the new funding framework, as currently implemented, risk eroding the UK's foundational capability in fundamental science through mechanisms that disproportionately affect early-career researchers and cannot be reversed on typical Spending Review timescales. We are therefore compelled to write now, as the present combination of uncertainty, delay, and re-prioritisation in early-career pathways risks the loss of a generation from the UK research and industrial ecosystem.

We note in particular the recent communication from the Executive Chair of the Science and Technology Facilities Council outlining a period of portfolio-wide re-prioritisation within the PPAN programme, including further reductions in new grants and a move towards a more concentrated and sustained funding profile. This process is occurring within the context of a rising overall UKRI budget and a stated commitment to protect curiosity-driven research. It is therefore essential that the mechanisms by which re-prioritisation is implemented do not unintentionally concentrate risk onto people-based research and early-career pathways, particularly where facilities, infrastructure, and long-term operational commitments are funded alongside staffing and training. Without explicit safeguards, early-career researchers become the implicit buffer for system-level adjustment, with consequences that are rapid, internationally mobile, and effectively irreversible.

Fundamental science is enabling infrastructure, not discretionary activity

Curiosity-driven fundamental science is not in tension with innovation-led growth. On the contrary, it is an enabling infrastructure upon which long-term technological leadership, resilience, and sovereignty depend. Many of the technologies that now underpin the UK economy – spanning computing, communications, medical imaging, advanced materials, artificial intelligence (AI), and emerging quantum technologies – originated in fundamental research that required and created entirely new technological trajectories before their commercial relevance was recognised.

Discovery science does not simply precede innovation; it actively shapes the landscape in which innovation occurs. It generates the people, capabilities, and optionality that allow industry to form, adapt, and scale. An innovation system that over-emphasises downstream R&D while weakening its upstream discovery base risks narrowing the pipeline of ideas and becoming increasingly dependent on technologies and intellectual property developed elsewhere, ultimately rendering the UK a follower rather than a leader in innovation.

Early-career instability and international perception: The irreversible risk of losing a generation of researchers

We are particularly concerned about the effects of funding uncertainty and delays on early-career researchers. Uncertainty around the timing and stability of postdoctoral recruitment is already influencing career decision-making. In funding systems that emphasise flexibility, dynamic allocation, and programme-level adjustment, early-career positions frequently become the primary mechanism through which uncertainty is absorbed.

This disproportionately affects early-career researchers, who are uniquely mobile. When career pathways collapse or appear insecure, they do not pause their work; they relocate, often permanently, to systems with clearer long-term commitments to discovery science. Once dispersed internationally, this talent cannot be rapidly reassembled in future funding cycles. The consequences of this attrition extend far beyond academia, it:

- removes the next generation of research leaders and educators before they can establish UK-based programmes;
- weakens the pipeline into industry, defence, and emerging technology sectors;
- erodes the UK's influence within international scientific collaborations and research infrastructure;
- reduces sovereign capacity to respond to future strategic and technological challenges.

While the full impact of these losses may take several years to materialise, by the time they are visible they are no longer reversible. For this reason, early-career outcomes should be treated as a leading indicator of system health under the new funding model.

At present, despite being the group most directly exposed to this risk, early-career researchers remain under-represented in many strategic and advisory processes that shape funding priorities and implementation. Ensuring their meaningful involvement would strengthen decision-making and reduce the risk of unintended capability loss.

However, the prioritisation mechanisms described, including reductions in new grants, project-level viability assessments, and delayed portfolio decisions, place the greatest effective uncertainty on fixed-term researchers. In practice, postdoctoral recruitment, contract renewal, and fellowship bridging become the primary adjustable parameters during periods of transition, even when early-career sustainability is not an explicit target of cuts.

By contrast, infrastructure, facilities, and large programmes can often be stabilised or re-expanded once funding conditions improve; early-career cohorts lost during a contraction cannot.

Translation, concentration, and long-term system resilience

The UK is internationally recognised for excellence in scientific discovery. Where it has historically underperformed is not in generating ideas, but in translating them into sustained domestic economic and industrial value through scale-up, long-term capital, and talent retention. Increased emphasis on downstream innovation and commercialisation is therefore both necessary and welcome.

However, these downstream interventions depend critically on the continued strength, breadth, and stability of the upstream discovery ecosystem that feeds them. There is a risk that an overly narrow interpretation of "doing fewer things better" could unintentionally reduce capability in areas of fundamental science whose contributions are long-term, enabling, and interdisciplinary.

Over-concentration may improve short-term coherence, but it reduces the diversity and resilience of the discovery base from which future technologies emerge. Once research areas fall below a critical mass, particularly through early-career attrition, recovery becomes slow, uncertain, and ultimately costly. Safeguarding breadth within curiosity-driven research is therefore not in tension with strategic focus; it is a necessary condition for sustaining the innovation pipeline that downstream investment seeks to strengthen.

Path forward: A strategic correction is required

The principal risk in the current funding approach is not one of communication, transition timing, or process. It is the effective definition of value being applied in prioritisation decisions. If fundamental research is assessed primarily through near-term market relevance or short-horizon deliverables, the consequence is systematic and unavoidable: areas of discovery science that generate new technological directions, skills, and the people who sustain future capability over longer timescales are selected against by construction.

Curiosity-driven research is not an early stage of a linear pipeline waiting for translation. It is the part of the system that determines which technologies, industries, and applications become possible in the first place. A funding framework that concentrates investment using short-term impact criteria therefore risks hollowing out precisely the upstream capability it seeks to protect. If this assessment logic is not corrected, measures aimed at stabilising recruitment or improving process will be insufficient, because the underlying scientific base will already have fallen below a sustainable critical mass.

This dynamic is particularly acute in the current PPAN re-prioritisation process. When people and facilities are funded from the same sources, the system adjusts by cutting or delaying people. Post-doctoral recruitment, contract renewal, and fellowship continuity become the levers through which change is absorbed. Early-career researchers therefore carry the cost of re-prioritisation, despite being the least able to absorb it and the most likely to leave, resulting in a permanent reduction in future capability and a direct loss of inputs to the UK's science and technology base.

Avoiding irreversible loss of capability requires implementation safeguards that bind decision-making, not statements of intent. We therefore urge UKRI and the Department for Science, Innovation

and Technology to adopt the following as minimum requirements:

- **Explicitly decouple the evaluation of curiosity-driven research from near-term market relevance**, and assess such areas by their contribution to skills formation, national capability, and long-term technological optionality.
- **Separate funding for people-based research from facility and infrastructure cost volatility**, so that early-career researchers are not the automatic adjustment mechanism during re-prioritisation.
- **Treat early-career sustainability as a key performance indicator**, requiring explicit assessment of recruitment delays, contract gaps, postdoctoral numbers, offer acceptance rates, and early-career attrition, before portfolio decisions are finalised.
- **Guarantee continuity mechanisms**, including protected staffing lines and bridging funding, wherever restructuring or delayed decisions would otherwise generate gaps in postdoctoral employment.
- **Embed early-career representation directly in implementation governance**, reflecting the fact that early-career outcomes are the earliest and most sensitive indicator of system health.

We stand ready to engage constructively. However, the success of the new funding framework will ultimately be judged not by restated commitments to curiosity-driven research, but by whether the UK retains a viable early-career pipeline and a critical mass of fundamental capability by the time the transition is complete. Crucially, significant harm is already being incurred during the transition: uncertainty and delayed opportunities are dispersing early-career talent before any material savings are realised or strategic benefits can take effect. Losses incurred during this period will not be recoverable on Spending Review timescales, regardless of future budget growth.

Protecting the UK's reputation as a science superpower requires not only investment, but continuity, confidence, and people.

Yours sincerely,

On behalf of the undersigned early-career researchers in the Particle Physics, Astronomy and Nuclear Physics (PPAN) community.

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