Engineering and Physical Sciences Research Council

The mathematical sciences and the UKRI priority programmes

Charlotte Deane at HoDoMS

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Engagement styles vary:

My Job

Executive Chair, EPSRC:

- Represent EPSRC on UKRI's Executive Committee, providing strategic and operational advice to UKRI Board
- Responsible for setting strategic direction of EPSRC and for the Council's delivery against it
- Delegated authority for managing budgets - required to put in place a system of controls and assurance

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UKRI:

- UKRI Senior Responsible Owner for:
  - AI
  - Quantum Technologies
  - Semiconductors
  - Advanced Connectivity Technologies and Cyber Security
  - National Security and Defence
- Executive Lead for UKRI Digital Research Infrastructure Programme
- Executive Lead for Cardiff Capital Region and Greater Manchester

UKRI Mission

"To advance knowledge, improve lives and drive growth"

UK Research and Innovation

EPSRC - What we want to do

Future proof the STEM workforce for the productivity of UK plc

by creating forward thinking investments in skills and people that create a competitive advantage for businesses and world-class R&I.

Build a sustainable and vibrant National Capability in research and infrastructure for science-driven growth

that underpins long term UK prosperity, national resilience, and ensures international leadership across scientific and technological frontiers.

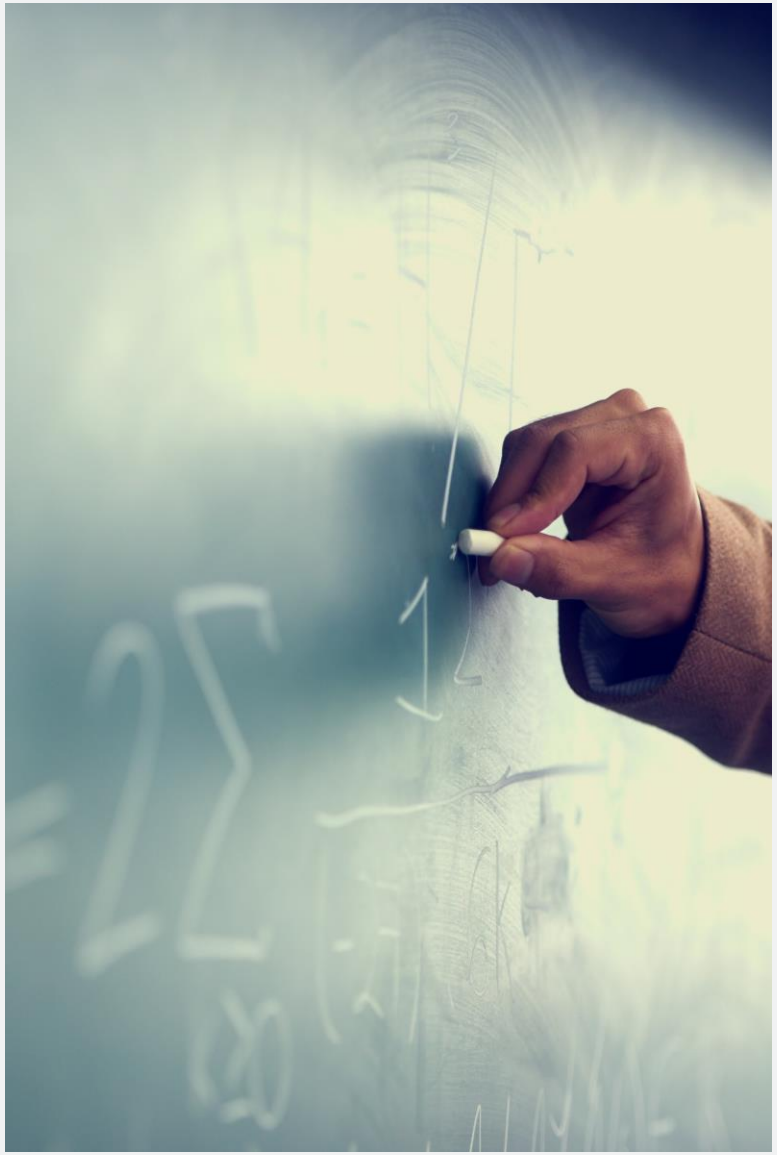
Catalyse the research and innovation the UK needs in Critical Technologies, Clean Energy and other Government priorities

to improve lives and spur new inwards investment and business impact in high growth industries.

Curiosity-driven research

Curating the Research Base

- **EPSRC funding that advances knowledge** through use of novel approaches or methodologies
- This may include investment in:
  - Novel ideas, with an outcome but with or without an application in mind
  - Emerging areas of research
  - High risk/high reward research
  - Research that underpins the health of disciplines



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UKRI's priority programmes

	Priority Programme	Senior Responsible Owner
Industrial strategy	Advanced Manufacturing, including Agritech	Tom Adeyoola (IUK)
	Clean Energy	Louise Heathwaite (NERC)
	Creative Industries	Christopher Smith (AHRC)
	Defence and Security	Charlotte Deane (EPSRC)
	Digital & Technologies:	
	- Artificial intelligence	Charlotte Deane (EPSRC)
	- Engineering Biology	Anne Ferguson-Smith (BBSRC)
	- Quantum	Charlotte Deane (EPSRC)
	- Advanced Connectivity Technologies, Semiconductors and Cybersecurity	Charlotte Deane (EPSRC)
	Financial Services / Professional & Business Services	Stian Westlake (ESRC)
	Life Sciences	Patrick Chinnery (MRC)
Wider societal priorities	Space	Michelle Dougherty (STFC)
	Food and Animal and plant health	Anne Ferguson-Smith (BBSRC)
	Climate, Adaptation, Environment and resilience	Louise Heathwaite (NERC)

UKRI's priority programmes

- Increased internal alignment, research innovation
- Strategic investment
- Clear, defined & appropriate leverage targets
- Research excellence *and* aligned impacts focus
- Familiar and novel funding mechanisms
- EPSRC will help its community navigate all the priority programmes as their core point of contact

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Talent and skills

Future proof the STEM workforce for the productivity of UK plc	• Continued cross-UKRI coordination, with delegated budgets to Councils and UKRI programmes.
	• EPSRC will invest in:
	  ○ Doctoral Focal Awards
	  ○ Doctoral Landscape Awards (DLA)
	  ○ Industrial DLA
	• EPSRC will support new investments as funding become available – usually when existing awards end.
	• Additional funding may go towards addressing skills needs in the UKRI priority programmes.
	• Fellowships will continue to be available in specific strategic areas / career stages.

Why EDI matters for EPSRC

Future proof the STEM workforce for the productivity of UK plc

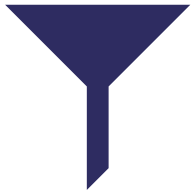
- **A stronger UK skills pipeline aligned with national needs**, ensuring long-term workforce sustainability in critical STEM areas.
- **Increased diversity in doctoral and research pathways**, bringing more people and a broader range of talent into the STEM workforce and strengthening future innovation capacity.
- **Improved retention and progression of underrepresented groups**, helping maintain and grow the UK's research capability across the EPS career pipeline.
- **More inclusive and accessible research environments**, enabling everyone to thrive and contribute fully.
- **Diversity improves research and innovation outcomes,** different expertise, perspectives and experiences generate the flow of novel ideas and solutions to problems that are needed to enable new discoveries and solve global issues.

UKRI's new strategic framework

Curiosity-driven research

Curating the Research Base

- Defined **inputs**
- Set scope, themes, constraints



Outcomes defined by the research community.

Strategic, government and societal priorities

Delivering Outcomes

- Defined **outcomes**
- Clear goals and intended impacts

Work with delivery partners to design inputs that achieve them.

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UKRI's new strategic framework

Curiosity-driven research

Curating the Research Base

Investment will be via applicant-led routes, not only responsive mode but also targeted funding opportunities to, for example:

- Grow emerging areas
- Build new capabilities
- Bring disciplines or communities together

Strategic government and societal priorities

Delivering Outcomes

Delivered via a series of **priority programmes** in partnership with UK Government.

Investments:

- May be interdisciplinary or sit within single discipline or Council remits.
- Will be made via targeted funding opportunities.

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Maths and the Priority Programmes

Maths in the UK

- 5 million employed
- >£480bn direct economic contribution, 19% of the UK GVA
- An enabling discipline underpinning advances across UK research and innovate

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Questions

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