

# SUSTAINING THE UK'S LEADING RESEARCH CAPABILITY



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As the main UK government agency for funding long term research and training in engineering and the physical sciences, EPSRC aims to maximise the international standing and impact of UK research.

Our goal of Shaping Capability, detailed in our Strategic Plan and published in early 2010, is one of our principal strategies for ensuring a vibrant and effective research base delivering maximum scientific, cultural and economic impact. It recognises that at a time of limited resources and fierce global competition, we must make difficult choices in order to ensure we maintain an excellent and effective capability in all our disciplines.

The concept of shaping is not new. Since EPSRC's inception we have made strategic decisions, for example when balancing funding for disciplines against one another. The difference is the higher level of transparency regarding areas of both higher and lower priority. We are now making strategic decisions across the whole portfolio in each of 111 identified research areas based on an assessment of excellence and national importance and in the context of existing investments. Any changes in the portfolio will take place gradually over time and we

will regularly review the shape of the portfolio and the scale of investment in different areas as it evolves.

## WORKING IN PARTNERSHIP

Shaping has been an iterative process, sharing ideas with our main university partners, industry partners, learned societies and other relevant stakeholder groups since the publication of the Strategic Plan, and this continues as new funding decisions are being made.

To ensure clarity and objectivity, we were careful to ensure we did not set communities to unhelpfully compete against each other. EPSRC staff have a deep knowledge of the research portfolio across engineering and the physical sciences and have drawn upon a wide range of information in progressing the shaping strategy. We regularly meet with researchers across the country and facilitate workshops with academics and industry to identify research priorities or evaluate past projects and co-develop plans.

Our Strategic Advisory Teams, comprising active academic and industrial researchers, have been actively involved in our shaping strategy. Our Council also maintains an active oversight of this work.

In making decisions about individual research areas, we take into account each area's capability, quality and importance to the UK relative to other areas in the portfolio. We have three broad action categories: 'grow', 'maintain' or 'reduce'. A 'reduce' category does not mean we will stop funding in that area, but it does mean that the competition for funding will be greater than previously. To maintain our flexibility to fund the best

research and respond to new opportunities we have not set budgets in each of the 111 research areas.

Decisions on the scientific excellence of individual research projects will continue to be made on the advice of peer review. We will continue to publish the results of peer review panels, the membership of the panels and the funding decisions.

## MATHEMATICAL SCIENCES

The mathematical sciences provide an excellent example of how shaping will be achieved in an area where impacts often only occur in the very long term.

We recognise mathematical sciences vital importance in itself and in underpinning research across our portfolio. As with many other disciplines, we have previously shaped specific areas of the maths portfolio including: mathematics for industry and business; statistics; and mathematics for the life sciences. The purpose of these initiatives was to encourage researchers to look at new directions for their research, either to maximise an existing strength, to take advantage of a research breakthrough, or to build capacity in an important and/or emerging area.

Going forward we will be clear about those areas in the mathematical sciences that we envisage will receive relatively more or less funding in future. We will also encourage researchers to actively consider collaboration across the mathematical sciences and with other disciplines they may otherwise have not pursued.

In adopting such approaches research excellence will remain fundamental in our decisions.

## FELLOWSHIPS

We have changed our fellowship process to provide greater flexibility for those wishing to apply by now accepting applications throughout the year rather than just once a year. Fellowships are one of the ways we support high performing and/or high potential individuals.

Contrary to what has been suggested, EPSRC is not stopping support for fellowships in mathematical sciences other than in statistics and applied probability.

In mathematics, the immediate focus on statistics and applied probability results from a national need to build capacity throughout different career stages in this area; this decision reflects evidence we have, including from the 2010 International Review of Mathematics. The scope of the areas eligible for fellowship support in mathematical sciences will expand as our shaping initiative develops, with further areas to be announced before the end of the year.

## EXCELLENCE AND IMPACT

Long-term science and engineering research is at the heart of discovery and innovation. We must maintain an environment that promotes excellence, encourages innovation, stimulates creativity and drives cultural, commercial and technological advances. EPSRC remains committed to working together with all of our stakeholders to ensure that we can deliver research that is both internationally excellent and delivers long-term impact for the health, prosperity and sustainability of the nation and the world.