

**Written Evidence Submitted by the Institute of Mathematics and its Applications  
(IMA)  
(RFA0078)**

The IMA welcomes the proposal to expand the range of UK research and development funding. Mathematics underpins the other sciences and the mathematical sciences community is ready and willing to cooperate with other disciplines.

The Bond Review report *The Era of Mathematics* (<https://epsrc.ukri.org/newsevents/pubs/era-of-maths/>) demonstrated the ability of the mathematical science to rise to the challenges facing it and we are glad to see that some recommendations of the report have already been implemented, while the mathematics community is currently working to deliver other recommendations.

What gaps in the current UK research and development system might be addressed by an ARPA style approach?

The current UKRI structure, taken over from the previously independent Research Councils, is adapted to funding short-to-medium term research within specific subject areas in universities. It is less well adapted to promoting inter-disciplinary or underpinning research, interacting with or centred on non-university bodies (including business, industry and government), or grand challenges. The EPSRC “Big Ideas” initiative is a welcome step in this direction but is not explicitly funded.

We welcome the opportunity to promote research and development in Grand Challenges (inter-disciplinary work of high risk and high impact) and Missions (longer-term projects directed towards a specific but challenging goal). We believe that Mathematics will be an important part of such work. In particular we suggest that a National Centre for Impactful Mathematics (a Bond Review recommendation) might be delivered as a part of the proposed ARPA.

## **About the IMA**

The IMA is the professional and learned society for qualified and practising mathematicians, with a membership of around 5,000 comprising of mathematicians from all sectors, as well as those with an interest in mathematics. It exists to support the advancement of mathematical knowledge and its applications and to promote and enhance mathematical culture in the United Kingdom and elsewhere, for the public good. Web: [www.ima.org.uk](http://www.ima.org.uk)

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