An Academy of Mathematical Sciences?

A <u>discussion paper</u> produced by the implementation group of the Big Mathematics Initiative in response to a suggestion in the Review of Knowledge Exchange in the Mathematical Sciences



## Who was consulted?

- The Council for the Mathematical Sciences
- The individual learned societies affiliated to the Council of the Mathematical Sciences (LMS, IMA, RSS, ORS, EMS)
- The Isaac Newton Institute
- The International Centre for Mathematical Sciences
- Advisory Committee on Mathematics Education
- Royal Academy of Engineering
- Academy of Social Sciences
- Academy of Medical Sciences
- Institute of Physics
- Conference Board of Mathematical Societies (umbrella organisation of USA mathematical societies)

## What the community feel is currently missing

- Advocacy for and authoritative representation of the discipline
- Proactive branding of the full breadth of the mathematical sciences
- A 'broad church', supporting all forms of academic and nonacademic mathematics and mathematicians

What the community wish to avoid Another body added to the alphabet soup, and another voice at the table

Disappointment. Expectations need to be managed and there must be a sustainable model.

Displacement of the existing learned societies. Anything new should complement and strengthen them. An Academy for Mathematical Sciences should be instigated with purpose "To advance the mathematical sciences. To promote the use and appreciation of mathematical sciences across society as a whole. To support and involve mathematical scientists throughout their education and careers."

The primary focus of the Academy should be the external interfaces of UK mathematical sciences, with existing bodies primarily focusing on nurturing the discipline.



## Functions of an Academy of Mathematical Science

## Advocate for the whole of the mathematical sciences Proactively lobby governmental and non-governmental organisations Advocate • Respond in a timely manner to relevant government and other initiatives • Celebrate high calibre and diverse research and knowledge exchange • Support UKRI and other funding bodies in distributing mathematical sciences funding **Develop the mathematical sciences brand** • Build and enhance a strong presence in all nations and regions of the UK Develop • Communicate how mathematics underpins many exciting developments • Demonstrate the power of mathematics in society Produce engaging material for wide dissemination Support the learned societies Coordinate campaigning efforts Support • Amplify the efforts of individual societies, and remove unnecessary duplication • Harness distinction to the benefit of mathematical sciences more widely

Coordinate	<ul> <li>Coordinate discipline-wide and life-long mathematical sciences education</li> <li>Integrate the activities of many organisations aimed at maintaining excellence in mathematics education</li> <li>Advocate for pre-university mathematics education</li> <li>Support HE establishments to engage with mathematical sciences education nationally</li> </ul>
Support	<ul> <li>Support mathematicians at all career stages and in all areas of employment</li> <li>Run research and professional development meetings</li> <li>Facilitate collaboration between academia and industry/government</li> </ul>
Recognise	<ul> <li>Recognise distinction by election of Fellows</li> <li>Fellows must support the external facing mission of the Academy</li> <li>Fellowship would not be limited to research-oriented mathematicians in UK higher education institutions</li> <li>The Fellowship must realise diversity, broadly defined</li> </ul>