



Web: www.AcadMathSci.org.uk
Email: contact@AcadMathSci.org.uk

Academy for the Mathematical Sciences:
Spring/Summer 2023 Consultation

Questions asked and answered at the 5 Consultation Events

December 2023

Questions asked and answered at the 5 Consultation Events

Questions - Q&A in Consultation Event 1 (4.5.23)

- Could you please go back to the slide with the Bond Review & Green Paper? What has been influence of these to the conception of Academy for Mathematical Sciences?
- What is your approach to Education in the Academy?
- A lot of work has already taken place in the 'mathematical sciences for policy' space eg mathematical scientists contributing to pandemic modeling, government scientists. What can an Academy Policy Unit add here?
- Can you tell us more about the proposed Policy Unit? What will it do?
- Would the creation of secondary mathematical schools across the UK be considered?
- How many Fellows do anticipate there will be?
- What is the financial model for the Academy?
- How will the Academy add value rather than taking up money that would otherwise go directly into maths?
- What is the vision for engaging the public?
- Of the total number N of fellows, how will the relative proportions of teachers, researchers, industrial mathematicians etc. be allocated? I guess uniformly?
- Can you say more about Maths to 18 as an example of how the Academy would engage with government with regards to policy for mathematics; in particular re: education.
- Can we give a brief description of what the practitioners/implementation work stream will be focussed on and how it will work? Especially re: KE hub
- What does the panel think of supporting learning hubs in/out of colleges that specialise in teaching mathematics to less mathematical people ie. who have either recently failed or wish to change role and require mathematics training?
Ideas would be:
 - Running maths hubs in/outside college to provide education and job specific training
 - Provide daytime and night time courses
 - Courses for younger people post-16
 - Courses for adults who want to refresh primarily targeted at maths for [a specific job role] eg maths for animators, etc
- What is the ECM workstream doing to support ECMSs?
- Teachers have commented that they don't necessarily understand the term 'mathematical scientists' too. How do we support/engage them?

- Are you using social media to bring in people who can advocate for you in the broader community
- How will the Academy work with the CMS's 5 learned societies? Relationship to existing societies?
- *Who* will ultimately decide whether the tests for deciding on which policy issues to engage with are met and what resources are to be expended on different approaches?
- Even if the academy will not have a publishing arm would, for example, open access publishing and journal expenses be a suitable area that the academy might work on advocacy/policy for?
- Can you say a little more about the Advocacy work so far? E.g. the Advocacy 2x2 matrix.
- Can we give some description of how the Academy will do things to make sure it is truly inclusive and work towards EDI in mathematics more generally?
- Will the Academy be advocating for evidence-based policies to support mathematical literacy across the population?
- How will you promote excellence in people working with disadvantaged communities? Any thoughts on fellows?
- Can you say a little more about how the Academy will help with EDI and engaging with young community? Something like the 'limitless campaign' by the Institute of Physics could work.
- It seems that the physics and mathematics communities are separated on many levels. Will the academy include physicists and be a uniting body?
- Not a question but is very important. It is very important that children with EHCPs (education and health care plans) are supported under EDI. Students currently have EHCPs up to age 25 but there is very little support after 16-18. There is also a large and growing group of homeschooled students that the academy should engage with.

Questions - Q&A in Consultation Event 2 (16.5.23)

- Can you give an example of the kind of issues that you envisage the Policy Unit (potentially) engaging with?
- How far will the academy mirror the activities of the Royal Academy of Engineering eg grant funding for research fellowships, industrial fellowships, entrepreneurs and startups; and providing policy?
- What is the policy of the academy to collaborate with industry and link maths departments with private sector? This is creating more jobs but also is important for the mathematicians to work on issues that have real implications.

- What is the future relationship between the KE Hub and the Academy after the initial 18-month area of work, and how will they mutually reinforce each other's activities if the Academy gets a positive Go decision?
- How does the Academy plan to ensure that mathematics teachers are well involved? Many other organizations I am involved with struggle to engage teachers and maintain their interest.
- How will the Academy source funding from outside government, for example through individual philanthropists, corporations and charities?
- What progress has there been on winning hearts and minds of government and relevant decision makers?
- Please can you say a little more on the constitution and nuts and bolts working of the Academy?
- Are there similar Academies in other countries? What lessons can be learned from them?
- Could you say something about the current thinking on the members/Fellows?
- The website states that the academy "will ensure it has a voice at the table where policy and funding decisions are made." My question is: how will the academy ensure (1) that it will have a seat at the table and (2) that the others at the table will listen to what it has to say?

Questions - Q&A in Consultation Event 3 (17.5.23)

- Think about one of the declared areas of interest: namely mathematics education. This area communicated with multiple voices until ACME was set up. This certainly made it easier for government to claim that it had consulted the community. But I cannot think of a single instance where this "single voice" actually led to a positive result. (Of course this may be because I am distant from the front line.) Please can you comment on this.
- How will the Academy work (in the context of education) with other educational organizations, such as the Royal Society's Advisory Council on Mathematics Education (ACME) and members of the Joint Mathematical Council (JMC), to add value to the work they are doing and avoid competing with them?
- Who will decide what issues the Policy Unit engages with and how will this be decided?
- What will the Academy do to support early- and mid-career mathematical scientists?
- Does making connections/networking and arranging mentoring conflict with the activities of the existing professional bodies?
- This is a great opportunity for creating something that is fresh and doesn't look like existing organisations. How will the Academy ensure that its Fellowship is representative of the communities it is advocating for, both at inception and for years to come?

- Could you explain in more detail why the legal form of an Association Charitable Incorporated Organisation (CIO) was chosen?
- How will the Academy ensure that it manages to engage those communities and individuals who typically haven't engaged with existing organisations?
- Tell us about the KE Hub and its future relationship with the Academy?
- How do you see the Academy interacting with AdvanceHE? In particular they do various things with regard to EDI, e.g. Athena Swan
- How will the Academy source funding from outside government, for example through individual philanthropists, corporations and charities?
- Can we give some description of how the Academy will do things to make sure it is truly inclusive and work towards EDI in mathematics more generally?
- With any kind of quick decision-making (which I see as the key advantage of the Academy over the existing structure of CMS), there will be portions of the community who disagree with any given Academy view. What's the plan for keeping the community on side? Does it involve existing organisations?

Questions - Q&A in Consultation Event 4 (24.5.23)

- How will the Academy ensure criteria for membership is not skewed to a particular group and that there is diversity on panels and that decisions place emphasis on inclusivity
- Many people who end up in careers that are considered here part of the mathematical sciences start in other areas, in particular natural sciences. This needs to be explicitly acknowledged and considered if the education of future generations of mathematical scientists are to be properly considered.
- Do you plan to seek a Royal Charter?
- How will the Academy work (in the context of education) with other educational organizations, such as the Royal Society's Advisory Council on Mathematics Education (ACME) and members of the Joint Mathematical Council (JMC), to add value to the work they are doing and avoid competing with them?
- A lot of work has already taken place in the 'mathematical sciences for policy' space eg mathematical scientists contributing to pandemic modelling, government scientists. What can an Academy Policy Unit add here?
- How will the AcadMathSci add value to existing learned and professional society members?
- The relationship between the learned societies and the Academy is very clear. I wondered what is the relationship between the Academy and Protect Pure Maths?
- The core business of the AMS is university mathematical sciences and serious practice/application of the mathematical sciences. Mathematics education is for purposes much wider than that, and its goals sometimes in tension with provision for those learners who will become part of AMS's core concern, and many

teachers of mathematics would not identify with mathematical sciences as a discipline. Might a stronger model be one where the AMS education strand feeds into the wider JMC scope, raising issues of importance for core AMS constituencies?

- Is there any more detail on the breakdown of the budget for the academy? The figures quoted in the proposal seem quite high.
- How will the Academy support early career mathematicians in industry?
- What is the future relationship between the KE Hub and the Academy after the initial 18-month area of work, and how will they mutually reinforce each other's activities if the Academy gets a positive Go decision?
- Will the academy have a remit to influence and support evidence-based practice in mathematics education professional development (from ITE onwards but also for non-qualified practitioners in private and state funded settings) for early years practitioners, as the absolute foundation of all future mathematical scientists?

Questions - Q&A in Consultation Event 5 for Early Career Researchers (19.6.23)

- In what way will the Academy be involved in or facilitate efforts in Mathematical Outreach or Widening Participation?
- How is the academy going to ensure that its focus is not solely on academia and teaching, but also on mathematics in industry?
- Having somewhat fallen by accident into my current career pathway (IT/Technical) after graduating a couple of years ago, I find myself feeling increasingly removed from the wider mathematical community as I'm not using the typical 'maths skills' but rather the soft skills I learned. I think it's important to recognise that there will be many who may have lost sight of their mathematical identity yet would still benefit from being recognised and kept in the loop so to speak. Does the Academy plan to tackle this segregation and recognise this demographic?
- How will the Academy collaborate with other organisations to bring Early Career mathematical scientists together and determine concrete actions to their benefit?
- How can the Academy help to challenge the stereotype of mathematical sciences as a career only for white middle-class cismen?

NB. There were subsequent virtual breakout room discussions – led by members of the Early-Career Mathematical Sciences (ECMS) workstream. The questions at these were not captured.