

# The Joint Mathematical Council of the United Kingdom

A Charitable Incorporated Organisation

Registered with the Charity Commission for England and Wales, Registered Charity Number: 1171223

Registered Office: De Morgan House, 57-58 Russell Square, London, WC1B 4HS

## Minutes of the General Meeting of The Joint Mathematical Council of the United Kingdom held at the Royal Statistical Society at 11 a.m. on Tuesday 14 November 2017

### Present

#### Officers

Chair	Paul Glaister
Secretary	Peter Thomas
Treasurer	Paul Harris

#### Representatives of Participating Bodies

Adults Learning Mathematics	David Kaye (deputy)
Association of Mathematics Education Teachers	Helen Farmery
Association of Teachers of Mathematics	Sue Pope
British Society for Research into Learning Mathematics	Sue Gifford
British Society for the History of Mathematics	June Barrow-Green
Conference of Heads of Departments of Mathematical Sciences	Jan van den Heuvel
Edinburgh Mathematical Society	David Pritchard
Institute of Mathematics and its Applications	Chris Chipperton
London Mathematical Society	Kevin Houston
The Mathematical Association	Jennie Golding
Mathematics in Education and Industry	–
National Association for Numeracy and Mathematics in Colleges	Sally Barton
National Association of Mathematics Advisors	Matt Lewis
National Numeracy	–
NRICH representing the Millennium Mathematics Project	Ems Lord
Operational Research Society	Sophie Parker
Royal Academy of Engineering	–
Royal Statistical Society	Scott Keir (deputy)
STEM Learning	Stephen Lyon
United Kingdom Mathematics Trust	Bill Richardson
Wales Institute of Mathematical and Computational Sciences	Sofya Lyakhova

#### Co-opted Members

Chair of the BCME Committee	David Martin
UK Representative to the International Commission on Mathematical Instruction	–

#### Representatives of Observing Bodies

Department for Education [England]	–
Department of Education [Northern Ireland]	–
Education Scotland	Stuart Cathro
Higher Education Academy	–
National Centre for Excellence in the Teaching of Mathematics	Jane Imrie
National College for Teaching and Leadership	–
Office for Standards in Education	Jane Jones
The Office of Qualifications and Examinations Regulation	Alison Tonkin (deputy)
The Royal Society	Rebecca Veitch

#### Visitors

Advisory Committee on Mathematics Education	Jeremy Hodgen
Department for Education	Will Longhill (afternoon)
The Mathematical Association	Tom Roper

## 1 Introduction

1.1 **Welcome** The Chair welcomed those present.

- 1.2 **Practical Arrangements** The Secretary read out the procedure for emergency evacuation as laid down in the contract for the booking of the premises.
- 1.3 **Apologies for absence** Apologies for absence were received from Jeff Evans (ALM), Julie Harris (DE), Derek Huby (NN), Janet Holloway (Ofqual) and Neil Sheldon (RSS).

## **2 Annual Business**

- 2.1 **Reception of the Annual Report** Bill Richardson asked why the trustees were given only up to 31 July 2017. The Secretary replied that the reporting year adopted for the Charitable Incorporated Organisation (CIO) ended on 31 July 2017. Bill Richardson then asked what a Social Investment was. The Secretary responded that whilst he could not give a clear description, he was confident that the JMC had not made any. Bill Richardson also asked what a General Meeting was. The Secretary replied that under the Constitution of the CIO, all Council meetings were now General Meetings; this nomenclature had been adopted as it was in line with the model constitution for CIOs of the Charity Commission for England and Wales.
- 2.2 **Reception of the Annual Accounts** The accounts were received without comment.
- 2.3 **Announcement of the Election of the Treasurer** The Chair announced that Jennie Golding had been elected as Treasurer at the General Meeting held on 9 June 2017.
- 2.4 **Election of Elected Trustees** The Chair said that there had been no nominations for Elected Trustee so there would be no election for an Elected Trustee. He added that the Trustees agreed that the vacancy should be filled and would put to the General Meeting on 13 February 2018 that Sue Pope be co-opted as an additional Co-opted Trustee for the remainder of 2017 – 2018.
- 2.5 **Co-option of Co-opted Trustees** (Matt Lewis and David Pritchard left the room whilst this item was being considered.) Sue Pope proposed and Sally Barton seconded that Matt Lewis be co-opted as a Co-opted Trustee for 2017 – 2018; the co-option was agreed without opposition. Chris Chipperton proposed and Bill Richardson seconded that David Pritchard be co-opted as a Co-opted Trustee for 2017 – 2018; the co-option was agreed without opposition.
- 2.6 **Co-option of Co-opted Members** (David Martin left the room whilst this item was being considered.) Chris Chipperton proposed and Jennie Golding seconded that David Martin be co-opted as a Co-opted Member for 2017 – 2018; the co-option was agreed without opposition. Jan van den Heuvel proposed and Matt Lewis seconded that Chris Budd be co-opted as a Co-opted Member for 2017 – 2018; the co-option was agreed without opposition.
- 2.7 **Decision whether there should be a Deputy Chair during the year 2018 – 2019** The Chair said that the Trustees wished to propose that there be a Deputy Chair during 2018 – 2019. A motion to implement the proposal was proposed by David Pritchard and seconded by Sue Pope; it was carried by 19 votes to nil with one abstention.

## **3 Final Business of the unincorporated JMC**

- 3.1 **Approval of the Minutes of the Annual General Meeting held on Tuesday 8 November 2016** The minutes were approved.
- 3.2 **Approval of the Minutes of the Special General Meeting held on Friday 9 June 2017** The minutes were approved.
- 3.3 **Approval of the Minutes of the Council Meeting held on Friday 9 June 2017** The minutes were approved.
- 3.4 **Approval of the Final Report** The Final Report was approved.
- 3.5 **Approval of the Final Accounts** The Final Accounts were approved.
- 3.6 **Matters arising not elsewhere on the agenda** None.

## **4 Minutes of the meeting held on Friday 9 June 2017**

- 4.1 **Approval** The minutes of the meeting held on Friday 9 June 2017 were approved.
- 4.2 **Matters arising not elsewhere on the agenda** None.

## **5 Reports from Officers**

- 5.1 **Chair** The Chair said that the JMC enabled community approval process for TSST mathematics programmes was going ahead apace and that two batches of courses were in the process of being approved using the audit tool agreed by JMC; the JMC website will have a list of approved courses

once they have been approved. Bill Richardson asked whether the TSST initiative related only to England and the Chair confirmed that it did.

The Chair said that he had been to two of the three ACME meetings this year and that there was a tabled paper from The Royal Society which gave an update on ACME's activities.

The Chair noted that there was no NCTL representative present; Paul Steele had changed his role and a new representative had yet to be appointed. The Chair said that JMC had met with NCTL in April 2016 and another meeting had been planned for June 2017 but had not taken place. He said that he now had a new contact with NCTL and hoped for a meeting before Christmas 2017.

The Chair said that the JMC had been invited by the Higher Education Funding Council for England to nominate panel members for the Research Excellence Framework REF 2021; he said that the Trustees were supportive and invited Participating Bodies to suggest names. Jan van den Heuvel said that HoDoMS had also been invited to make nominations and was having to consider how to construct a list; he felt that the RSS, LMS and IMA were better equipped to make nominations. Sue Gifford said that BSRLM has put out a call for names to put forward. Sally Barton said that the REF was looking to widen participation so she did not see why JMC should not contribute. Jan van den Heuvel said that it was odd that some people should have multiple routes to nomination. Jennie Golding said that the community wanted to be represented in the assessment of research in mathematics and mathematics education and that we should use this opportunity to increase openness and equity. Sally Barton said that the invitation included a category of those involved in the use of research. Tom Roper said that in order to put forward names that it was necessary to know what the panel members would be expected to do. The Chair added that, once names were put forward, it was for the Trustees to decide who to nominate. Jane Imrie said that the invitation to the JMC was giving an opportunity to nominate to those societies that were not invited directly.

The Secretary then proposed that he would send out an invitation (with details of what was required) for suggestions of nominees to be sent to him by 28 November 2017; if an organisation is responding directly to an invitation to nominate then it was asked not to also send suggestions for nomination to the JMC. This was agreed. Jane Jones and Sally Barton observed that there was no limit on the number of nominations that could be made, and that equality and diversity would be helped by making more than one nomination. Jan van den Heuvel said that we should be clear whether the nominations would be of mathematicians, mathematics educators or mathematics users.

- 5.2 **Secretary** The Secretary announced that the General Meeting in November 2018 would be on Tuesday 13 November 2018. The Secretary noted the number of late reports and said that to assist those sending in reports, the deadlines for reports would in future be given alongside the dates of meetings. The Chair emphasised the importance of reports arriving by the deadline and the additional work created when they arrived late.

At the beginning of the afternoon session, the Secretary drew to the Council's attention that at the meeting on 13 February 2018 it would elect a Chair for the BCME Committee (to organise BCME10 in 2022) and on 6 June 2018 it would elect a Chair for the JMC (to serve from November 2018 to November 2021). He said that formal notices of the elections would follow in due course but he hoped this early warning would be helpful.

- 5.3 **Treasurer** The Treasurer said that there had been an overall surplus of about £1600 on the year 2016–17; all the accounts with HSBC had been closed and all the accounts with the Co-Op were now open. The budget he proposed allowed for a 10% increase in costs.

The Treasurer then went on to discuss the possibility of saving on the cost of lunch and drew attention to the table of costs in his annual report; choosing the Bronze Lunch would save about £1000 which could be used for other purposes. For example, the GCSE Working Group was a useful opportunity to engage with Ofqual and DfE but it could only do that if there was sufficient money to support its activities. Sue Pope was very supportive and said we should at least try the Bronze Lunch. Scott Keir said that the Bronze Lunch contained a range of sandwiches and other items, and that he used it for meetings he ran at the RSS. The Chair proposed we try the Bronze Lunch. Scott Keir said that as a charity we should look to economise. Bill Richardson pointed out that some representatives travelled a long distance. Ems Lord asked about the possibility of opting out of lunch and echoed the point that some representatives had long journeys. Helen Farmery suggested that people might like to try the nearby food market. David Pritchard proposed that next time we try the Bronze Lunch and this was agreed.

The Chair then proposed that the subscription rates for the coming year should be set at the rates in the 2.80% column in the Budget for 2017/18 (2.80% being the rate of inflation current when the figures were prepared); this was agreed without dissent. The agreed rates for 2017/18 (2016/17 in brackets) are:

Participating Body: Large	£720 (£700)
Participating Body: Medium	£360 (£350)
Participating Body: Small	£170 (£165)
Participating Body: Special	£100 (£100)
Observing Body	£180 (£175)

The Chair thanked the Treasurer for his service of over six years as Honorary Treasurer of the old JMC and Treasurer of the new JMC, saying that he had done an outstanding job and, although it was a thankless task, he thanked him for his contribution. The Treasurer replied that it had been a pleasure doing it and that he had enjoyed doing it.

## 6 Reports from Committees

- 6.1 **BCME Committee** David Martin (Chair of the BCME Committee) thanked the Committee and the administrators of ATM and the MA. He circulated flyers for BCME9 which now showed the sponsors on them. He was grateful to the IMA and LMS for providing funding for bursaries, for which application needed to be made by the end of the week. He said that bookings were now open and that people should book early to secure their preferred choices of session. He added that the money in the bank had now doubled but needed to double again to pay the venue deposit, so he particularly encouraged people to book early.

The Chair thanked David Martin and those working with him for their efforts to make BCME9 a success.

## 7 Reports from Participating Bodies

The Chair reminded those present of the new procedure for handling reports. There would be an initial opportunity for updates and clarifications but substantive discussion would be held over until all reports had been received.

- 7.10 **Association of Mathematics Education Teachers** Helen Farmery expressed concern about the capacity of colleagues in university initial teacher education to take on an increased role, even though desirable, as departments are already overstretched and people almost at breaking point. She said AMET is struggling to hold committee meetings and its conference did not happen as people could not get away. AMET would welcome working with other organisations in the future in new structures.

Sue Pope noted that the AMET report mentioned the change in bursary funding by the DfE and she asked whether the DfE consulted anyone. Helen Farmery replied that, to her knowledge, DfE had consulted no one. Chris Chipperton said that he had been talking to a member of the team working on the Mathematics Teacher Training Bursaries and there was concern that the change may affect the nature of applicants to schools as it will preclude more mature applicants who will no longer have the funds to cover their training. The Chair said that NCTL will include in those attending the forthcoming meeting with JMC a person knowledgeable about this issue. Sue Pope said that the change was a high-risk experiment and it will divert some potential teachers of mathematics to physics. Sally Barton emphasised that, although recipients will receive the same nominal amount in total, the money was not as valuable to them as they would receive less while in training. The Chair remarked that a motivation for the change was to discourage bursary tourism.

- 7.1 **British Society for Research into Learning Mathematics** Sue Gifford said that BSRLM is looking for three editors for its journal *Research in Mathematics Education*; the deadline for applications was the end of the month. She said that, otherwise, BSRLM was going from strength to strength.
- 7.2 **Edinburgh Mathematical Society** David Pritchard had nothing to add to the printed report.
- 7.9 **London Mathematical Society** Kevin Houston had nothing to add to the printed report.
- 7.3 **The Mathematical Association** Jennie Golding had nothing to add to the printed report.
- 7.4 **NRICH representing the Millennium Mathematics Project** Ems Lord gave an update on the Extended CPD Programme 2017-18: the three days had now been cancelled because of low uptake – the programme was up against competing provision which included the offer of paid supply cover. Jane Imrie said there was a big issue of competing professional development projects and a shortage of capacity to lead them.
- 7.5 **Operational Research Society** Sophie Parker said that she was the new Education Officer for the OR Society and that Charlene Timewell had moved to a new role within the OR Society.
- 7.6 **Royal Statistical Society** Scott Keir had nothing to add to the printed report.
- 7.7 **STEM Learning** Stephen Lyon said that a new area of work was the development of resources for STEM Ambassadors to use in schools. They would like to increase the number of STEM

Ambassadors offering mathematics and increase the number of requests from schools for STEM Ambassadors to work in mathematics.

- 7.8 **United Kingdom Mathematics Trust** Bill Richardson had nothing to add to the printed report.
- 7.11 **Wales Institute of Mathematical and Computational Sciences** Sofya Lyakhova outlined the main developments in Wales. She said that a new curriculum was being developed and teachers have been appointed to work on using Big Ideas to form the curriculum, but there were questions about whether it would work. It does not hold together; the idea of using Big Ideas, which came from a humanities group, has been taken and applied across the curriculum; there are problems seeing what is distinctive about mathematics.

Sofya Lyakhova also said that the new accreditation criteria for initial teacher education (ITE) programmes emphasised partnership between HEIs and schools. There was also more emphasis on research, universities bidding for ITE programmes were required to be active in research.

## 8 Reports from Observing Bodies

- 8.1 **National Centre for Excellence in the Teaching of Mathematics** Jane Imrie said that there was a second page to the NCETM report which gave details about the Maths Hubs and moves to ensure more coherent planning across the hubs and that evaluators had been appointed for the Maths Hubs programme. More government funding was going into Maths Hubs, primarily in the North and in the Opportunity Areas. Matt Lewis said that NCETM was no longer requiring hubs to support regional CPD meetings and hubs were now looking to support CPD locally.

- 8.2 **The Royal Society** Rebecca Veitch made some verbal additions to the printed report. ACME would be submitting responses to both the DfE and Ofqual consultations on Functional Skills. On 10 November 2017, The Royal Society published its report *After the Reboot – Computing Education in UK Schools* [<https://royalsociety.org/~media/policy/projects/computing-education/computing-education-report.pdf>] which has links to mathematics through data science. The Royal Society will be holding a Mathematics Education Policy Conference on 17 July 2018.

Jeremy Hodgen said that ACME now reports through The Royal Society. The Chair said that the JMC could be a useful place to circulate consultation responses to other organisations; indeed, JMC could be used more generally to share information.

- 8.3 **Office for Standards in Education** Jane Jones tabled a report [which was subsequently distributed electronically], she summarised it verbally. She said that Ofsted no longer makes survey visits and evidence is now gathered through whole-school inspections; two hundred of Ofsted's inspectors have a particular interest in mathematics. The new Chief Inspector is very interested in the curriculum and it will be more prominent in the 2019 review. Last year Ofsted looked at the Key Stage 2 to Key Stage 3 transition in mathematics and some of the outcomes can be found in Ofsted's annual report. This year the Chief Inspector has commissioned a whole-school curriculum survey from early years to post-16. Myths about Ofsted inspections and a myth-busting document has been produced.

Ems Lord was sad to learn of the end of subject inspections and she was concerned that data would be skewed by the lack of visits to outstanding schools. Jane Jones responded that outstanding schools can be visited, also as there was some telephone contact with schools other than those being inspected. Further, many Ofsted inspectors are senior leaders in schools. She accepted that Ofsted does not get the same depth of information as before but there is no provision anymore in Ofsted's budget for gathering it.

## 9 Reports from meetings

- 9.1 **Council for Subject Associations: 17 October 2017** It was agreed that the Council's thanks should be conveyed to Alison Clark-Wilson for representing the JMC on CfSA.

## 10 Discussion of Reports

- 10.1 **How to Increase Membership** Sue Gifford said that the membership of BSRLM was declining and BSRLM was looking for ways to engage with more teachers and ITE colleagues, although it recognised how busy they are. It was looking for ideas on how to reach out and engage more teachers and practitioners in research.

David Martin said that BCME was coming up and it encouraged cross-over between different parts of the community; he asked if there was anything it can do to assist this growth. Sue Pope concurred with this.

The Chair drew attention to NCETM and the Maths Hubs. Jane Imrie said that BSRLM had talked to the Maths Hubs but they did not have the time to engage.

Helen Farmery said that the capacity of staff was overstretched but AMET could push BSRLM more on its website.

Sue Pope said there was a need to inform the community about BSRLM's events; it could ask ATM and the MA to publicise them in their newsletters, and the same with NAMA, NANAMIC and AMET, this would help to raise awareness.

- 10.2 **Maths Weeks** Sophie Parker introduced the idea of Maths Weeks; she spoke of the one in Scotland (in which the OR Society had taken part) which had been a great success.

David Pritchard said that Maths Week Scotland was a high-profile event for the Scottish Government and there would be sensitivity about it being subsumed in a wider roll-out, but there was potential and he noted that Maths Week Ireland took place at a different time of year. Sue Pope said that maybe any Maths Week England or Maths Week Wales should be on a separate date so organisations could be involved in several of the weeks. David Pritchard said it would be interesting to get Maths Week Ireland to talk at a post-lunch discussion session and engage others such as National Numeracy; this could form an afternoon session. He added that the date for Maths Week Scotland for next year was under discussion.

Scott Keir drew attention to National Science Week and he asked whether a separate maths week is needed, although he noted that the mathematical content of National Science Week is less obvious.

Stuart Cathro said he could contact the Scottish Government Curriculum Unit co-ordinator of Maths Week Scotland who might come to speak if a session was organised.

It was agreed that an afternoon discussion session on Maths Weeks should be organised and speakers from the Maths Weeks in Ireland and Scotland be invited.

- 10.3 **Teacher Preparation and Supply** Jeremy Hodgen said that ACME is about to update its Snapshot on teacher supply and recruitment.

The Chair said that Council might have an afternoon discussion on this topic with The Royal Society and the LMS pooling resources to lead the discussion. Rebeca Veitch said that the Snapshot would need to come out first, so the summer meeting in 2018 would be a good time. Kevin Houston expressed concern that 6 June 2018 was rather far away. Rebecca Veitch said The Royal Society would be holding an event in March 2018 on teacher retention, also there were opportunities for sessions at the policy conference in July 2018.

Jennie Golding said there were significant issues in terms of communications for ACME, actions are happening which are not widely known about in the community which it would be helpful if they were more widely shared as it would be good if we could work on them together. The LMS paper contains some very big issues which should not be put on the back burner as they are pressing.

Tom Roper said that NFER is doing work on teacher recruitment and retention, and it has found that mathematics has the second highest rate of early leavers from teaching. Jennie Golding said that there are hidden shortages with non-specialists teaching mathematics. Jeremy Hodgen said ACME is pressing for improvement in the quality of data on mathematics teachers. Rebecca Veitch pointed out that The Royal Society's staff supporting ACME no longer work solely on mathematics; she hoped the Contact Groups would provide advice to ACME; she also said that things were now on a slower time line.

Jane Jones asked what would be the consequences of the discussion and said there was a need for clarity. Kevin Houston said one consequence might be to encourage more opportunities for educational experience in mathematics degrees. He thought the idea of an afternoon discussion was a good one.

## 11 **Any other business not elsewhere on the agenda**

None.

## 12 **Discussion: The Smith Report on post-16 mathematics in England**

The Chair introduced Will Longhill (Policy Lead for Mathematics, DfE) who then addressed the Council.

Will Longhill gave an update on what the DfE had done since the publication of the Smith report and said that he wanted to take the opportunity to engage with the community and ensure that clear messages were going out.

The Minister's initial letter of response which accompanied the publication of the Smith report on 20 July 2017 included some initial actions: the setting up of the Level 3 Mathematics Support Programme, the new careers strategy the launch of which is imminent, work on teacher supply and

the trial of the new mathematics teaching bursaries (which aim to give better value for money by improving retention).

The Minister's response was not a point-by-point one to the recommendations of the report as there were not immediate answers to everything. There was a need for conversations with the community and with the Minister. In particular, there was a need to think about the cultural issues. He said there was a need to build capacity within the DfE and to ensure central coordination of initiatives, to that end Kiera Newmark, a Deputy Director in the DfE has been given cross-departmental responsibility for STEM. It was also hoped that the new £60-million Teaching and Leadership Innovation Fund will provide support for professional development of teachers and school leaders.

Work pre-16 is key to building capability, interest, confidence and an appreciation of the value of mathematics in order to grow participation.

There is significant interest in the Smith report across government departments.

Smith talks about the financial challenges for providers of post-16 mathematics; work has been done on this, and ideas and options have been put to ministers. It is expected that the White Paper on the Industrial Strategy will address this issue; once that is published, it would be possible to have a more open conversation and to be able to talk about implementation details.

Following Will Longhill's initial presentation, the session was opened to questions and comments.

Jennie Golding expressed concern about the provision post-16 for those without a Grade 4 in GCSE Mathematics, both those who could realistically target a Grade 4 and those who could not. Will Longhill said that the DfE was continuing to look at the issues, including what more the government can do to support those on the borderline and those further away for whom other qualifications may be more suitable.

Tom Roper said that Smith said that there should be no financial barriers to people studying mathematics post-16 but the funding for Further Mathematics was small, result-dependent and *post hoc*. He asked how this contradiction was to be removed. He also drew attention to the lack of funding for Core Maths. Will Longhill responded Core Maths was, at least in theory, fundable from within the core funding provision. Nevertheless, the DfE has thought long and hard about the issue, including discussions with ministers, and it is accepted it needs new funding, options are being developed but they will need to be considered against other options for spending priority; he hoped that he would be in a position to say more soon. He continued that in the future the DfE would want to work more with JMC members about details to know how options may drive school and college behaviour. He assured the Council that ministers were aware of the financial challenges for providers but said there were also issues of teacher quality, teacher supply and demand for provision.

Jane Jones said Ofsted had non-systematic evidence of a 50% drop in Further Mathematics take-up in quite a few schools this autumn. A sixth form college had ceased to offer Core Maths as it does not go through to full A Level. Rebecca Veitch said that ACME and the Association of School and College Leaders had issued a press release in line with this. Jane Jones emphasised that these reports bring an added urgency to addressing the issue in the Smith Report. Will Longhill said that ministers were aware of the need for urgency in addressing the issues raised in the Smith report.

Bill Richardson asked whether costs were high because uptake is spread thinly across centres for Further Mathematics and Core Maths. He also expressed concern that if a significant number of centres ceased to offer Further Mathematics then we may be looking at the end of the subject. Will Longhill responded that there was a need to get hard data on Further Mathematics numbers and that he recognised the difficulty of delivering small classes in the present financial climate. Sue Pope observed that, in general, Further Mathematics was taught on much reduced hours.

Sue Pope also asked why there is a tendering process happening for a new Level 3 Mathematics Support Programme rather than continuing support for the existing programmes. Will Longhill said that there was no intention that current support should lose out. Sue Pope said there was a gap in support for Core Maths and there was also the insecurity engendered by the bidding process; this did not seem consistent with the recommendations of the Smith report. Will Longhill responded that the gap was unfortunate but a single programme would be able to provide for greater coherence in messaging and support, and give better value for money; also the overall amount was increasing. Sue Pope said that the new contract would be destabilising as it was for just two years. Will Longhill said that the two years was to the end of the current spending review round, then there would be a new five-year settlement, so only two years funding could be guaranteed. He added that bids for the Level 3 Mathematics Support Programme were being assessed and the outcome was expected in January 2018.

The Chair said that the Industrial Strategy White Paper was likely in the near future and the Budget would definitely happen in the near future. He raised the subject of the Functional Skills consultation and said there was a danger that if what was proposed went ahead then Functional Skills would end up no good for anyone, neither serving its existing clientele nor acting as an alternative to GCSE re-sit.

Chris Chipperton said that the IMA Schools and FE Committee see this as very much the case, the link to GCSE requirements is making Functional Skills totally unfit for purpose. The clear message he is receiving is that employers are unhappy with the proposed changes although others claim otherwise. He also said the reforms would place greater emphasis on use by post-16 learners rather than mature learners. He expressed concern that previous consultations in the reform process have not heard the messages they have been given but have gone off in a different direction of travel.

Sue Pope said that Functional Skills was about learners being able to use their mathematical skills in context but we now seemed to be going back to Key Skills and testing skills separately. The purposes of Functional Skills are confused in the DfE consultation document. Functional Skills could be an alternative to GCSE but we should not break what we already have, although it should be strengthened and there should be greater comparability between the various Functional Skills qualifications on offer.

Tom Roper said that part of the problem was that ministers believe there is a gold standard with GCSE and everything else must have this. He said the Pathways Project, following the original 2004 Smith report, had two different pathways (although this raised issues about equality of opportunity) but it became caught on the need that everyone must do GCSE. He said we need a pathway pre-16 and another post-16 for those who were unsuccessful with GCSE: a Core Maths 2 and a Core Maths 3.

Will Longhill said that he would feed back the views expressed on Functional Skills reform as clearly there were serious concerns among those present.

Jane Imrie pointed out that the Smith report had recommended that ACME should be involved in any changes.

David Kaye said that the proposed Functional Skills reforms reminded him of the skills testing in the old Adult Numeracy qualifications. He referred to BIS's decision in December 2011 to replace use of the word 'numeracy' by 'maths' and wondered whether use of the latter word in 'Core Maths' indicated that it was seen as 'mathematics lite'. Will Longhill asked what was the difference between mathematics and maths, and how should numeracy, mathematics and maths be defined. He said that the m-word hides a multitude of definitions and viewpoints and there was no intention when using maths or mathematics to give the words different meanings. Sue Pope observed that QCA always used 'mathematics'. The Chair added that we have to be careful with messaging and culture is something we can all help with.

Matt Lewis asked if Smith was the policy vision for the DfE or if there is any other policy vision. He asked also what are the barriers and suggested that these might include pre-16 quality which needs to be driven up by continuing the mastery programme through secondary and expanding the support provided by the Maths Hubs. He suggested another barrier was teacher supply; it was important to look at the impact of the various STEM packages; if post-16 numbers studying mathematics are to increase, new thinking on teacher supply and how to recruit mathematics teachers will be needed. Will Longhill responded that ministers are signed up to the Smith ambitions and accept the challenges Smith set out around teacher supply, culture and making provision widely available. Ministers are committed to responding to all the Smith recommendations.

Scott Keir asked Will Longhill whether he needed further information from Council members for the upcoming Budget. Will Longhill replied that Budget discussions were now coming to a conclusion and he would be taking back to the DfE what had been said:

- financial deliverability was a hinge issue,
- the question of how to support those working below Grade 4,
- that he had not heard anything at odds with what the DfE is doing in response to Smith,

He concluded by saying that timescales should be clearer in a few weeks' time.

Jennie Golding said that messages about how highly mathematics is valued are not as high-profile as they could be. Will Longhill asked what would be the best vehicle and message. Jennie Golding responded that it was a matter of culture, with unhelpful language, for example, the pressure to label the lowest 30% as failures which is undervaluing them unless proper provision is made. She said there was also a need for subject-specific CPD (as has been said in ACME and other reports): subject knowledge and subject pedagogic knowledge are underdeveloped in many teaching mathematics.



David Martin asked if there were any specific actions planned with regard to Recommendation 7. Will Longhill replied that the DfE was planning to build a more comprehensive picture of the FE mathematics workforce and work would be undertaken on this in the new year.

The Chair said that Justine Greening had said in the House of Commons that she did not wish to pre-empt the Budget.

Chris Chipperton asked whether anything could be said about Recommendations 16 and 17, relating to the attitudes towards mathematics of youngsters and their parents. Will Longhill replied that the team to think about this was just being put in place; there was a need to think about age groups, school and societal settings and other influences. Chris Chipperton said that the importance of mathematics in careers needs to be got across. Will Longhill said the new team will want to engage and will be looking at different ways of conceptualising the problem.

The Chair said that he saw opportunities with the forthcoming White Paper. Will Longhill said that for any new policy one needs everyone pushing out the same message and it was helpful to know the opportunities for messages.

Tom Roper said the desired change will not happen without good well-qualified teachers in the classroom. We cannot expect mathematics graduates alone to fill the vacancies in the classroom and we must support others to become well-qualified mathematics teachers. TSST schools get funding but the teachers get no funding, they also get no follow-up; such provision is just a starting point. Jane Imrie said that the subject-specific element needed to be emphasised; it was an issue in primary, and increasingly in secondary and FE.

Matt Lewis said that many of the recommendations in the Smith report could be implemented with high impact and he drew a parallel with the Cockcroft report which was not fully implemented; Singapore did implement it and we are now importing it from there.

Will Longhill said that he hoped when the JMC next met, many things would be happening and the Council could consider how it could support implementation.

Jane Jones asked what evidence there was of the effectiveness of the bursary, what research was being done into how people take decisions, why there is so much drop out after one year, would it be more worthwhile if smaller numbers were trained but there was better retention?

Sally Barton said it would be more encouraging to provide support rather than money after three years; teachers cannot get quality time out of the classroom (she mentioned NRICH having to cancel provision for lack of uptake); there needs to be more support for CPD. She also said that if Further Mathematics goes then that removes an incentive for good mathematicians to become teachers.

The Chair closed the discussion and thanked Will Longhill.

## **13 Conclusion**

The Chair thanked everyone present for their contributions and closed the meeting.

## **14 Dates of future meetings**

Tuesday 13 February 2018 (deadline for papers: Tuesday 30 January 2018)

Wednesday 6 June 2018 (deadline for papers: Tuesday 22 May 2018)

Tuesday 13 November 2018 (deadline for papers: Tuesday 30 October 2018)

These meetings will be held at the Royal Statistical Society and begin at 11 a.m.

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## **Summary Minutes of the Trustees' Meeting General Meeting of The Joint Mathematical Council of the United Kingdom held at the Royal Statistical Society at 9 a.m. on Friday 9 June 2017**

**Present** Paul Glaister (Chair), Peter Thomas (Secretary), Paul Harris (Treasurer), Sally Barton, Matt Lewis, Sue Pope David Pritchard and Jennie Golding (visitor).

### **1 Introduction**

1.1 **Welcome** The Chair welcomed those present.

1.2 **Practical Arrangements** These were addressed informally.

1.3 **Apologies for Absence** None.

### **2 Minutes of the meeting held on Friday 9 June 2017**

- 2.1 **Approval** The minutes of the previous meeting were approved.
- 2.2 **Decisions since the meeting held on Friday 9 June 2017** The following decisions were noted.
- 2.2.1 **JMC Representative to the OCR Mathematics Consultative Forum** It was agreed that Sue Pope should be appointed as the JMC Representative to the OCR Mathematics Consultative Forum until 31 December 2019 (in the first instance). *(Decision confirmed by the Chair on 14 July 2017.)*
- 2.2.2 **Annual Report** The Annual Report of the Trustees was approved in the form to be presented to the Annual General Meeting. *(Approved by the Trustees on 22 October 2017.)*
- 2.3 **Actions** The action points from the previous meeting were reviewed. Most had been completed and the progress on the others was discussed.
- The meeting with NCTL, deferred from the summer, has yet to take place but it is hoped that it will happen by the end of the year.
- It was noted that no engagement had been achieved with any party about University Admissions Tests and it was decided that a letter should be written to the DfE to at least place on record the concerns that have been expressed.
- 2.4 **Matters arising not elsewhere on the agenda** None.
- 3 Transition from the Joint Mathematical Council of the United Kingdom to The Joint Mathematical Council of the United Kingdom**
- 3.1 **Minutes of the Meeting of the Executive Committee of the Joint Mathematical Council of the United Kingdom held on Friday 9 June 2017** The minutes of the meeting of the Executive Committee of the Joint Mathematical Council of the United Kingdom held on Friday 9 June 2017 were approved.
- 3.2 **Bank Accounts** All accounts with HSBC have been closed and accounts have been opened with the Co-operative Bank.
- 3.3 **Registration with the Charity Commission for England and Wales** The process has been completed.
- 3.4 **Registration with HMRC** The process has been completed.
- 3.5 **Registration with the Charity Commission for Northern Ireland** It was agreed that work on registration with CCNI should be resumed.
- 3.6 **Registration with the Office of the Scottish Charity Regulator** It was agreed that work on registration with OSCR should be resumed.
- 3.7 **Policies** It was agreed that policies on Trustee Training, Reserves and Risk Assessment would be developed.
- 3.8 **Any other matters** None.
- 4 Officers**
- 4.1 **Chair** The Chair outlined The Royal Society's report to Council which was then discussed.
- The Chair reported that the JMC enabled community approval process for TSST mathematics programmes had begun with two cycles in progress.
- The Chair said that the JMC had been invited to nominate individuals as candidates to be members of panels for the Research Excellence Framework 2021. It was agreed that the Chair would put this to the General Meeting with a request that suggestions were sent to the Secretary by 28 November 2017.
- 4.2 **Secretary** The Secretary raised the matter of catering at meetings and there was a discussion of cheaper alternatives to the present practice of a hot meal. Trying the Bronze Lunch at the meeting on 13 February 2018 was favoured.
- Subscription rates for 2017/18 were then discussed. It was felt that if we were going to economise on catering then the lower proposed increase of 2.8% (rather than 9%) was more appropriate. (The Treasurer had prepared the 9% alternative to show the increase that would have been necessary to generate a similar amount as would be achieved by the catering economies.) It was agreed that the 2.8% increase (in line with inflation at the time it was prepared) would be put to the General Meeting.
- There was a discussion of reporting by JMC representatives on other bodies and it was agreed that guidelines would be sent to all JMC representatives on other bodies along with thanks for the work they had undertaken on the JMC's behalf. The agreed guidelines were:

- Representatives would be asked to structure their reports of meetings in three parts (representatives should consider whether it would be helpful for at least the first two parts to have the facts checked by the host organisation):
  - a factual account of the meeting,
  - any evaluative comments on the meeting for reporting to JMC member bodies (in writing this they should be mindful of the potential wide circulation of these comments),
  - any additional evaluative comments on the meeting for reporting to the JMC's trustees (if this part has not been fact-checked then they need to be particularly mindful of the responsibility for ensuring factual accuracy when writing it).
- When communicating with outside bodies representatives should consider carefully the email addresses and signatures used lest they might give rise to possible misunderstandings, and to that end representatives would be offered JMC email addresses.

4.3 **Treasurer** The Treasurer said that the accounts had been checked as required by the Charity Commission for England and Wales. There had been a small surplus on the year of £1263.10.

The Chair said that he wished to place on record his personal thanks, and those of his colleagues, to the Treasurer for over six years of service to the JMC in that role.

4.4 **Other Trustees** It was noted that as a result of no Trustee having been elected (there having been no nominations), there is an additional vacancy for a Co-opted Trustee. The Trustees were of the view that the vacancy should be filled. They agreed that the co-option of Sue Pope as a Co-opted Trustee should be put to the General Meeting on 13 February 2018.

## 5 Committees

5.1 **BCME Committee** That the election of the new Chair is take place at the General Meeting on 13 February 2018 was noted.

5.2 **GCSE Working Group** It was agreed that Sue Pope would remain as Convenor of the Working Group and that Jennie Golding would be the Link Trustee.

5.3 **ICME Bursaries Committee** It was agreed that Jennie Golding would be the Link Trustee.

5.4 **MMSA SIG** It was agreed that Matt Lewis would be the Link Trustee.

## 6 Nomination for Chair

6.1 It was agreed that this item would be considered at the Trustees' Meeting on 13 February 2018.

## 7 Future Meetings

7.1 **Business of the General Meeting** The issues on which discussion had been requested were reviewed.

7.2 **Dates of Future Meetings** It was agreed that a meeting would be held on 13 November 2018 in addition to those already agreed for 13 February 2018 and 6 June 2018.

7.3 **Discussion Sessions at General Meetings** The discussion items at the first two General Meetings in 2018 were agreed (subject to confirmation):

13 February 2018: 'Developing teachers' mathematical knowledge using digital technology' (a Nuffield Foundation-funded research project undertaken by Celia Hoyles and Alison Clark-Wilson) (invited speakers for a 45-minute session: Celia Hoyles and Alison Clark-Wilson); Ofqual's research into GCSE Mathematics (invited speaker for a 45-minute session: Alison Tonkin, Ofqual).

6 June 2018: 'The initial and ongoing professional education of mathematics teachers' (session to be led by the LMS and The Royal Society).

## 8 Any other business not elsewhere on the agenda

8.1 Preparations for BCME were discussed.