

# 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 hybrid General Meeting held at De Morgan House at 11.00 am on Thursday 22 February 2024

### Present

#### *Officers*

Chair

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Deputy Chair

Noel-Ann Bradshaw

Secretary

Chris Chipperton

Treasurer

Fiona Curtis

#### *Representatives of Participating Bodies*

Adults Learning Mathematics

Beth Kelly

Association of Mathematics Education Teachers

Fiona Curtis

Association of Teachers of Mathematics

Helen Madeley

British Society for Research into Learning Mathematics

Alf Coles

British Society for the History of Mathematics

June Barrow-Green

Edinburgh Mathematical Society

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Heads of Departments of Mathematical Sciences

Mary McAlinden

Institute of Mathematics and its Applications

Paul Glaister

London Mathematical Society

Mary McAlinden

The Mathematical Association

-

Mathematics in Education and Industry

-

National Association for Numeracy and Mathematics in Colleges

Andrew Davies

National Association of Mathematics Advisors

Ruth Trundle

National Numeracy

-

NRICH

-

Operational Research Society

Chiara Carparelli

Royal Academy of Engineering

-

Royal Statistical Society

Zoe Nye

Scottish Mathematical Council

Alan Walker

STEM Learning

Michael Anderson

United Kingdom Mathematics Trust

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Wales Institute of Mathematical and Computational Sciences

Sofya Lyakhova

#### *Co-opted Members*

UK Representative to the

International Commission on Mathematical Education

Paul Glaister

Social Media Lead

Richard Perring

#### *Representatives of Observing Bodies*

Department for Education [England]

Alex Smith

Department of Education [Northern Ireland]

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Education Scotland

John Neeson

National Centre for Excellence in the Teaching of Mathematics

Sue Madgwick

Office for Standards in Education

Hannah Stoten

The Office of Qualifications and Examinations Regulation

Sarah Old

The Royal Society

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The Royal Society Advisory Committee on Mathematics Education

Anthony Tomei

Scottish Qualifications Authority

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Welsh Government Education Department

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## 1 Introduction

- 1.1 **Welcome** In the absence of Andy Noyes, Noel-Ann Bradshaw to the Chair. She welcomed everyone to the meeting and in particular Chiara Carparelli who was attending her first meeting.

### 1.2 Practical Arrangements

- 1.3 **Apologies for absence** Apologies for absence were received from: Andy Noyes (Chair); Ems Lord (MA & NRICH); Charlie Stripp (MEI); Paul Milner (National Numeracy); Hannah Stoten (Ofsted); Steve Wren (Ofsted); Cath Boulton (Royal Society)

There were no deputies.

## 2 Minutes of the meeting held on 9 November 2023

- 2.1 **Approval of the minutes of the meeting on Thursday 9 November** The minutes were approved subject to two minor amendments (5.3 and 6.19).
- 2.2 **Matters arising not elsewhere on the agenda** It was noted that there had been an announcement that funding for *Multiply* will end in March 2025. This was considered a shame given some of the good programmes that are developing.

## 3 Reports from Trustees

- 3.1 **Chair** The Chair's report was noted. The Deputy Chair added that another recent death was that of Tony Gardner in January. Tony had made a strong, wide-ranging contribution to mathematics education including as LMS Education Secretary and to UKMT.
- 3.2 **Deputy Chair** The Deputy Chair reported that she and the Chair had drafted a response to the Academy consultation. This was to be discussed further in item 4.2.
- 3.3 **Secretary** The Secretary's report was noted. He added a plea for more timely responses to deadlines for reports and attendance.
- 3.4 **Treasurer** The Treasurer explained the thinking behind the new presentation of accounts which also makes reconciliation with bank statements more effective. Council approved of the new format and agreed that circulation with representatives was sufficient and that they would not be put on the website along with the minutes.

The current account remains high due to it containing BCME funds. A new deposit account is being opened and these funds are to be transferred.

It was clarified that 'unbudgeted income' refers to JMC holding money on behalf of the five organisations looking to develop the possible single association (AMiE).

## 4 Updates

- 4.1 **Election of Chair** The Deputy Chair left the room for this item.

The Secretary explained that a number of individual's had been identified and approached as to their interest as possible nominees for the next JMC Chair. All had rejected the possibility. Noel-Ann Bradshaw had been one of these. Having been approached again on behalf of the trustees and by other individuals, she had reconsidered and stated that she was now prepared to accept a nomination.

The call for nominations will go out in March with a closing date at the end of April. This will be an open call, but the trustees' intention is to nominate Noel-Ann. While other nominations are welcome, if organisations do not have anyone in mind they are encouraged to support Noel-Ann as well.

The Secretary explained that should Noel-Ann be successful an amendment to the constitution will be required to allow her to serve a third term. Council agreed that the Secretary should draft such an amendment for the June meeting – **Action: Secretary**. Thought will also need to be given to filling the Deputy Chair role if it falls vacant.

- 4.2 **Academy for Mathematical Sciences** DSIT have issued a consultation on the forming of an Academy for Mathematical Sciences. The Chair and Deputy Chair had drafted a response which had been

circulated amongst the trustees for amendment and approval. There have also been a number of round table discussions which the Chair and Deputy Chair had attended on behalf of JMC; other representatives have participated on behalf of other organisations.

The consultation sought responses to four questions regarding objectives, short and long-term aims, engaging with stakeholders, and learning from other organisations.

The response from JMC argues strongly that education needs a higher profile; it is largely missing in the consultation document. It was agreed that the JMC response should be circulated and consideration be given to it being put on the website.

- 4.3 **Association for Mathematics in Education (AMiE)** The Treasurer reported that she had attended a meeting the previous day. Members had been informed that the vote expected at the AGM would have to take place at a later date. The amount of work for MA and ATM was greater than initially expected. There was also concern about the level of spending to be committed to without the certainty of the amalgamation happening. The smaller organisations were finding it easier to move forward as there were not the issues of staff, premises, etc. An agreed form of wording has been developed as has a smaller amount of funding.

ATM and MA are still exploring merger, but need to utilise expertise in such areas as HR and law. The feeling is still positive, but progress needs to be careful and measured.

## 5 Reports from Participating Bodies

Representatives were thanked for their reports. The following points were highlighted:

5.5 (BSHM) It was flagged that the meetings are really interesting and available to all.

5.7 (HoDoMS) The report contains a link to the report on *Mathematical Sciences recruitment and graduate outcomes – A diversity perspective of the landscape of Mathematical Sciences in UK universities*. This was a major work that had been commissioned looking at the change of recruitment trends and the long-term impact from these.

A high proportion of mathematical sciences graduates were in employment and/or further study post-graduation, irrespective of the entry requirement category of the institution from which they graduated. A slightly higher proportion of women graduates were in further study and/or employment than men and a smaller proportion of women graduates were unemployed than men.

Mathematical sciences graduates work across the economy and a high proportion were employed in managerial/professional/ associate professional occupations.

Sectors in which mathematical sciences graduates were working varied by institutions' entry requirements. For example, the proportion of employed mathematical sciences graduates from the lowest entry requirement institutions working in education professions (including teaching) 15 months after graduation was considerably higher than the proportion of employed graduates from the highest entry requirement institutions. In contrast the proportion of employed mathematical sciences graduates from lowest entry requirement institutions working in financial and insurance services after 15 months was lower than the proportion of employed graduates from highest entry requirement institutions in this sector.

The Deputy Chair stated that an important message for her was that an A grade is not necessary to do a mathematics degree.

It was reported that degree apprenticeships for teaching had been announced. These are due to be piloted from September. JMC may want to look at this development.

It was also reported that Cathy Hobbs would be speaking on this topic at a forthcoming Protect Pure Maths summit.

It is understood that the report is being used in conversations with the Office for Students. It is also believed to be high on the agenda in conversations involving ministers and shadow ministers.

5.8 (IMA) The report contains some interesting links especially regarding careers.

5.9 (LMS) Popular Lecture – 9 May; Education Day – 22 May; Gresham Lecture – 22 May. It was suggested that these be advertised through the Maths Hubs – **Action: Mary McAlinden; Sue Madgwick.**

5.10 (MA) It was noted that the increase in X followers was astonishing and to be commended.

5.11 (MEI) The funding for Core Maths was noted and greatly welcomed.

5.19 (SMC) The conference date has been confirmed as Saturday 18 May with James Grime.

5.22 (WIMCS) New JCC qualifications have been announced. The L1 qualification design has been delayed and there is concern that the title makes it seem too basic.

During item 5, the Government consultation on the Advanced British Standard was mentioned. It was noted that various participating bodies had encouraged members to respond and others would do so. The LMS and IMA are preparing a joint response. There was a request for this to be made public which the LMS representative is to consider.

## **6 Reports from Observing Bodies**

The reports from Education Scotland, NCETM and the Royal Society were noted.

Other reports were received orally. In line with Council practice minutes of these were not recorded.

## **7 Discussion of Reports**

There were no further points of discussion arising from the reports.

## **8 Any other business**

There was no other business.

## **9 Discussion: International Comparisons**

Council was joined by Professor Jenni Ingram (University of Oxford)

Jenni Ingram gave a presentation highlighting aspects of the PISA report on the mathematics performances in England, Wales and Northern Ireland. The slides are to be circulated to Council members. A number of points were made against the slides:

#2 Colours used in the table indicate above average performance (blue), average (white) and below average (grey). Brackets show jurisdictions with significantly similar performances. England had a larger sample size than Wales and Northern Ireland.

#3 A lot of jurisdictions did not meet sampling standards. This was the case in all three UK jurisdictions due to response rates. The colour coding shows that other data was available to example the impact and the conclusion was no impact (green), no other data was available (purple) and other data was available and considered to have had a positive impact on performance. (In England, KS2 performance was used and the OECD concluded that this might result in an upward bias of 9 or 10 points difference.)

#4 Maths proficiency is based on OECD levels (1-6). L2 is considered to be basic proficiency. Below L2 is because not enough questions were answered. There is a wider range due to the lower end doing less well and not because the top end is doing better; there is a longer tail.

#6 PISA is selective. All but one jurisdiction's performance declined. UK jurisdictions' performances declined in line with the international picture. The decline is not evident in TIMSS. PISA looks at application and problem solving while TIMSS looks at curriculum knowledge. The decline is not solely linked to COVID.

#7 Information is collected from questionnaires in addition to the assessments. Due a large proportion of students not completing the questionnaires, the socio-economic backgrounds are not known for these students. The gap is relatively stable in all three jurisdictions. Boys do better particularly at the high end; this is more so in England.

#8 PISA measures aspects of mathematics focussing on 4 processes: formulating, employing, interpreting, and mathematical reasoning.

#9 Content scales look at: change and relationships, quantity, shape and space, and uncertainty and data. Uncertainty and data is quite strong. Shape and space is not good and is weaker than comparable European jurisdictions.

John Neeson gave a presentation on the PISA performance in Scotland. Again, slides are to be circulated. The performance was not particularly good and is a 'hot potato'. Two significant camps view PISA as not creditable/not valuable enough or that there is too much emphasis placed on the results.

The results have been shared and discussed with a number of different groups

The trend over time is declining both from 2003 and 2012. The subscales have led to questioning the need to make changes to the curriculum.

The questionnaires have raised some interesting points especially the perceived lack of assisting staff and the disruption due to digital devices.

PISA results and the decrease in National 5 results have led to a curriculum development review.

There is a big debate as to the effect of COVID on performance.

The Deputy Chair thanked Jenni Ingram and John Neeson for leading such an interesting and thought-provoking discussion.

## **10 Conclusion**

The Deputy Chair thanked everyone for their attendance and closed the meeting.

## **11 Dates of future meetings**

- Thursday 13 June 2024 at the NCVO (Deadline for papers: Thursday 30 May 2024) – this is likely to be a face-to-face meeting only
- Thursday 7 November 2024 at De Morgan House (Deadline for papers: Thursday 24 October 2024)