

**MINUTES
of the CMS-EPSRC Annual Meeting
held on 7th March 2011
at the Royal Society**

1. Welcome and introductions

Professor Frank Kelly welcomed attendees to the meeting. Those present were:

Council for the Mathematical Sciences
Professor Frank Kelly (Chair)

Operational Research Society
Professor Jeff Griffiths

Edinburgh Mathematical Society
Dr Penny Davies (President)

Royal Statistical Society
Professor Valerie Isham (President)
Professor Alastair Young (RSS Council)
Dr Martin Dougherty (Executive Director)

Institute of Mathematics and its Applications
Professor Paul Glendinning (Vice President)
Professor David Abrahams
Mr David Youdan (Executive Director)

Engineering and Physical Sciences
Research Council
Professor David Delpy (Chief Executive)
Mr David Harman (Mathematical Sciences
Programme Manager)
Members of the Programme Team:
Dr Caterina Mora, Dr Vivienne Blackstone and
Dr Kate Miller

London Mathematical Society
Professor Angus Macintyre (President)
Professor Ken Brown (Vice-President)
Ms Fiona Nixon (Executive Secretary)

Minute Secretary
Duncan Turton

Apologies were received from Anne Bennett (CMS Secretariat)

2. Minutes of the meeting held 3rd February 2010

The minutes were **approved**.

3. EPSRC Delivery Plan and the process for the forthcoming Implementation Plan

David Delpy gave a presentation that set out the current context that EPSRC was working in. He added that he was aware of some comment that EPSRC was, 'telling,' subject communities rather than consulting, and he hoped that the presentation would establish a context for discussion. EPSRC had previously set out its Strategic Plan and Delivery Plan, and these would inform future directions. An implementation plan will be published on or about April 1st that will set out indicative commitments to areas of the EPSRC portfolio, effective from autumn 2011, and would be subject to regular review.

Overall the BIS research budget has been ring fenced at flat-cash levels (equivalent to a c. 12% cut allowing for inflation). Capital spending is however outside of the ring fence and this will have the effect of reducing flexibility. The projection set out in the presentation was that there would be a real terms decline in EPSRC work volumes from around 2014.

The presentation reinforced several aspects of the transformative plan the EPSRC was undertaking in its work. EPSRC's work going forward will be informed by three particular imperatives – to *deliver impact*, to *shape capability* and to *develop leaders*. The portfolio will be shaped by excellence and also national need and the overall approach will shift from being a funder to a sponsor of research. It was made clear that EPSRC will sacrifice breadth and volume of research in favour of their priority areas. Both excellence and the national need will shape the portfolio (with a 60:40 divide between capability and challenge categories). EPSRC-funded research will also seek to actively encourage creative and ambitious research, embed impact and focus on leaders. There would also be a focus on PhD quality, as opposed to quantity. It was also reiterated, following previous announcements that project studentships, knowledge transfer and public engagement separate funding streams would cease.

David Delpy took questions on the facts of his presentation. There was comment that there appeared to be a tension between the move to becoming a sponsor of research and the reduction in administration, common to all research councils. There was comment that, 'sponsoring,' research would need intellectual engagement with the discipline. It was reported that in future there would be a greater channelling of effort within EPSRC onto delivery and that ancillary activity such as communications and analysis would be reduced or end. In common with other research councils there was a move to a common back office which it was envisaged would produce efficiencies. There was also concern expressed about the emphasis on leaders to the extent that not everyone in research would be a 'leader.'

4. Discussion items

4.1 2010 International Review of Mathematics – Preliminary discussions which may inform the EPSRC's formal response to the International Review

4.1.1 Recommendation 2 – A new structure for communication between EPSRC and the Mathematical Sciences Community

The Chair set out the recommendation made by the IRM and invited comments. EPSRC added that there would be a process that would lead to a response to the IRM in autumn 2011. There was discussion of the recommendations made by the IRM about communication between EPSRC and the maths community. Comment was made that the current Strategic Advisory Team (SAT) arrangements are unsatisfactory. Although the SAT is made up of eminent mathematicians, CMS representatives felt that it was unclear what the SAT's role is, how members are selected, who they represent and what members of the SAT can and can not say to the community. David Harman explained the role of the SAT and the responsibilities of its members. It was agreed that a meeting between the SAT and CMS would be held, to attempt to clarify and improve communications. It was also **agreed** that the meeting should take place some time between April and early June to be able to feed into the EPSRC planning process. EPSRC commented that other subjects were able to communicate effectively within the existing structures and it was unclear why the same was not true of the mathematical sciences.

There was feeling expressed by CMS representatives that the SAT in its current form lacks visibility in the community and it was not clear how EPSRC interacts with the SAT. More generally, there was a sense expressed that the mathematical sciences community has an expectation of what the SAT should do that does not entirely correspond with what EPSRC considers the roles of its SATs to be. It was emphasised that there was no appetite for more meetings outside of the extant CMS schedule, rather there was a need for a more specific, agreed agenda for two-way interaction.

4.1.2 Women in Mathematics

EPSRC were responsive to suggestions for increasing numbers of women in maths, though they emphasised that they felt that individual HEIs also held significant responsibility for the issue. In particular HEIs do not give a high profile to the flexibilities that exist in the current system. It was agreed that EPSRC would contact Gwyneth Stallard regarding an article from the LMS Women in Maths Committee to go in its Maths newsletter. It was also confirmed that EPSRC do hold some gender data on its own activities, though not on non-EPSRC activity.

There was some concern about the legal aspects of some of the proposals that had been put forward, though it was noted that several already existed but could be further promoted.

EPSRC noted that two Portfolio Managers were attending the LMS Women in Maths day on 6th May 2011.

EPSRC agreed to draw the relevant recommendations in the paper that had been considered at the meeting to the attention of all scheme managers as it was felt that the women in research issue raised questions beyond mathematics alone.

4.1.3 Funding Excellence in UK Mathematical Sciences

There was comment that the questions surrounding the funding of excellence had wide implications for the health of the discipline, though there was recognition that pressures on budgets were strong. In particular there it was commented that current trends towards research concentration ran the risk of creating deserts where there were few if any undergraduate courses – this has a negative effect on the research and training base.

David Delpy said that he did appreciate the difficulties created by ‘deserts’ though he commented that he felt that this was not a problem for EPSRC alone. He emphasised that EPSRC’s remit was to fund excellence, not to ensure a geographic distribution. He added that it was the peer review that had driven concentration and that there would be national priorities above geographical concerns. David Harman commented that he was aware of the arguments surrounding concentration in mathematics research but pointed out that there was substantial research that is not EPSRC funded. Some of the CMS representatives questioned the idea that EPSRC’s practices had been neutral regarding concentration. Some grants, particularly Platform Grants were felt to have reflected concentration.

The Chair and other CMS representatives emphasised the ‘unique’ nature of maths relative to other disciplines. Critical mass of people/facilities was far less of an issue in maths than in the physical sciences and for some topics large grants are not necessary to produce excellence. CMS emphasised that because EPSRC funding for maths was low compared to other subjects a broader landscape was necessary as the indicators of excellence were broader than for the rest of the EPSRC portfolio.

It was added by CMS representatives that in maths there is a strong argument that, ‘the best,’ does not equal what is concentrated. There was comment that maths was ‘invisible’ to EPSRC because the indicators of excellence were different and that excellence was more widespread than EPSRC believes.

One of the CMS representatives commented that critical mass in mathematics departments could be maintained by splitting larger grants. It was also commented that mathematics (especially small departments) lead on interdisciplinary work which was encouraged by EPSRC.

The Edinburgh Mathematical Society (EMS) representative reported to the meeting that changes to the SFC’s procedures were creating problems particular to Scotland. David Delpy commented that he was aware of the issue, but not the detail, and the EMS representative agreed to prepare a short briefing note.

4.2 Proposed EPSRC/CMS Small Grants Scheme

Ken Brown set out the idea of EPSRC funding a small grant programme to be administered by CMS or one of the constituent bodies. It was commented that delegation of a scheme could reduce the administrative burden on EPSRC, provide a proportional level of administration and could allow the mathematical science community to identify excellence.

EPSRC were doubtful of the benefits of delegating its funds to another organisation given the stringent requirements for quality control and audit demanded of public sector organisations. There was also concern that a delegated scheme could be ineffective because of the need to pay full economic costs. In view of these concerns they did not feel that the proposed CMS scheme could be taken forward.

There then followed discussion about the current EPSRC Mathematical Sciences small grants scheme. EPSRC commented that they were unaware of rumours that the scheme would be closed, and were concerned about how rumours were being spread. It was confirmed that there were no intended changes to the small grants arrangements. EPSRC agreed that it would write an article in the Maths@epsrc newsletter about small grants. Learned Society newsletters should publish a standard paragraph and all Learned Societies were to let Vivienne Blackstone know who she should contact regarding newsletter articles.

It was also reported that EPSRC was aiming to reduce the number of schemes it operated.

4.3 Early Career

It was reported that there was intense competition for a postdoctoral posts and that UK-trained PhDs were struggling to get the necessary research experience to compete. The gap between UK and international students was marked with regard to research experience, with international PhD graduates having typically up to five years more experience than their UK-trained counterparts.

CMS representatives expressed their support for the PhD Plus idea and proposed a dedicated Mathematical Sciences PhD Plus scheme. It was noted that PhD Plus was now available within the DTG allocations. It was added that CMS felt that there was a break in the pipeline producing PhDs in maths. The proposed PhD Plus for mathematics would be for all students who had been trained in the UK. David Harman agreed to consult with others in EPSRC to see if what was proposed for mathematics was feasible.

4.4 EPSRC Programme 2011-2015

It was reported that no budgets yet at programme level had been decided and it was not possible to say how much funding would be available or for what purpose. The Implementation Plan when published will set out sums available.

The Maths team proposed to arrange two reviews during the forthcoming year:

- Maths research infrastructure: EPSRC will be reviewing collective funding to the INI, ICMS, Durham and Warwick symposia to determine whether it represents the optimum use of resources EPSRC will establish a peer-review body to undertake this exercise. (2-3 meetings across the summer)
- Statistics: EPSRC will act on the IRM recommendations on statistics by setting up a more detailed review of structural issues. It seeks the assistance and support of the RSS in this.

EPSRC are also considering a new funding initiative called disciplinary networks that would provide small scale funding for groups of researchers in a particular topic to consider major research challenges in an area that might be taken forward through various grants routes. It was emphasised that EPSRC grants, including Programme Grants, are not limited to individual researchers or single universities, and teams of researchers are encouraged to apply.

The RSS representative commented that any moves to actively consider the IRM's findings would be welcomed. It was added that the RSS has started to research in more depth questions of supply and demand for statistics skills. EPSRC agreed to share data where it would help this work. It was also asked whether there could be a return to previous arrangements where a separate statistics and OR panel could be established. EPSRC said that such a step would be unlikely; they were seeking to consolidate/reduce numbers of panels across their whole portfolio.

CMS representative added that they would be keen to see Mathematical Sciences Underpinning funding continued. David Harman agreed that this was the intention.

5 Questions

EPSRC commented that it felt that few in the mathematical sciences community knew that regular meetings between CMS and EPSRC took place and it was **agreed that Learned Society newsletters should carry reports**. More generally, it was felt that EPSRC could talk to the community through the learned society newsletters as a good communications point. The goal to shape capability in particular needed buy-in and advice and a constructive dialogue was necessary.

6 Future Action

David Delpy reported that EPSRC would be producing a Landscape Document for its whole portfolio. In plotting the landscape, EPSRC would need substantially more data than it currently holds.

David Delpy also commented that maths seemed never to be mentioned when he held discussions with Pro-Vice Chancellors. CMS said that that this was simply a reflection of the low levels of EPSRC funding paid to maths rather than a comment on excellence.

The chair added that in future he would like to see TOP and UP pay closer attention to the desirability that the market in diverse sections of the economy placed on mathematical skills. He felt that the EPSRC should take account of signals such as pay and employability that reflected well on maths.

7 Any other business

There was none.

8 Date of next meeting

It was agreed to poll for a date in due course.