



Science Board

17 and 18 June 2013

Minutes of the Thirty Eighth Meeting

Polaris House, Swindon

- Present:**
- Professor Matt Griffin (**Chair**) – Cardiff University
 - Professor Jon Butterworth – University College London
 - Dr Olwyn Byron – University of Glasgow
 - Dr Alison Davenport (**Deputy Chair**) – University of Birmingham
 - Professor Martin Dove – Queen Mary, University of London
 - Professor Julian Eastoe – University of Bristol
 - (18th June only)
 - Professor Sean Freeman – University of Manchester
 - Professor Anthony Lasenby – University of Cambridge
 - Professor Ken Long – Imperial College London
 - Professor Bob Newport – University of Kent
 - Professor Simon Redfern – University of Cambridge
 - Professor Justin Wark – University of Oxford
 - Professor Robert Warwick – University of Leicester (from item 5)
 - Professor Alfons Weber – University of Oxford and STFC RAL
- STFC:**
- Professor Grahame Blair – Executive Director, Programmes
 - Ms Lisa Kehoe - Secretary, Technology Sub-group
 - Mr Tony Medland – Head of Particle & Nuclear Physics (items 7 – 12)
 - Dr Neil Pratt – Head of Light Sources & Neutrons (items 7 – 12)
 - Dr Janet Seed – Associate Director, Programmes
 - Dr Colin Vincent – Head of Astronomy (items 7 – 12)
 - Professor John Wommersley – Chief Executive (17th June only)
 - Dr Victoria Wright – Head, Science Strategy
- Apologies**
- Professor Alan Heavens – Imperial College London
 - Professor Des McMorrow – University College London

1. Item 1 – Welcome and Introductions

- 1.1. The Chair welcomed everyone to the meeting.
- 1.2. Conflicts of interest for Science Board members relating to the Programmatic Review were collated prior to the May meeting and are recorded in Annex One of the May meeting minutes SB.13.37.
- 1.3. In the same manner as for the May meeting it was agreed that, to limit the disruption to the meeting discussions, conflicted members need not leave the room. The approach for handling conflicts was agreed to be:
 - Science Board members should be aware of their institutional conflicts and avoid any influence over their comments on the broad programme areas;
 - Where a direct conflict existed with a project under discussion, those conflicted should not contribute to the discussion.
 - It was noted that some sub-group chairs had project conflicts that would need to be explicitly recognised during the appropriate discussions.

2. Item 2 – Minutes and actions (SB.13.37) SOME REFERENCES IN THIS SECTION HAVE BEEN REDACTED AS PROTECT: MANAGEMENT

- 2.1. The minutes of the May meeting were not agreed as there had been insufficient time for review. It was agreed that they would be finalised at the July teleconference. Some amendments were noted:

3. Item 3 – Update from Council (verbal) SOME REFERENCES IN THIS SECTION HAVE BEEN REDACTED AS PROTECT: MANAGEMENT

- 3.1. The Chair gave an overview of the May meeting of Council. Professor Sir John O'Reilly, Director General, Knowledge and Innovation, BIS had been in attendance at the meeting.
- 3.2. The Chair of Science Board had presented slides describing the Programmatic Review process and Science Highlights including the observation of pear shaped nuclei in first measurements at ISOLDE in CERN, first observations of short lived atomic nuclei, also at ISOLDE in CERN, and a further update on the Planck results.
- 3.3. The STFC Chief Executive gave an update on the Large Facilities Funding Model (LFFM).
- 3.4. The Spending Review was discussed. The Chancellor would be announcing the budget on the 26th June at which time there would be further review to determine individual Research Council allocations.
- 3.5. A House of Lords inquiry into UK scientific infrastructure was continuing until the 21st June. This included an open consultation to which RCUK was providing a coordinated response. Science Board agreed it would make a

submission independently of the STFC executive. The Large Facilities Sub-group was also considering a response, it was agreed that the two would be combined to avoid dilution of the message.

- 3.6. Both the Chair and Deputy Chair were planning to attend the next Council meeting on the 16th July.
- 3.7. The Chair requested submission of science highlights ahead of the meeting.

4. Item 4 – Programmatic Review – Address unresolved issues from May meeting (SB.13.38.01)

- 4.1. Science Board agreed to address this agenda item under item 5.

5. Item 5 – Programmatic Review Report to Council (SB.13.38.02, SB.13.38.03)
SOME REFERENCES IN THIS SECTION HAVE BEEN REDACTED AS PROTECT: MANAGEMENT

- 5.1. The Chair outlined the process for review of the report to Council.
- 5.2. The draft Science Board report to Council had been circulated to Science Board members with the recommendations highlighted. The report would be reviewed during the meeting with each recommendation being explicitly considered. The focus would not be on finessing the wording, but on the content.
- 5.3. Science Board was asked to confirm that in each instance it agreed with the recommendations of the sub-groups. Where Science Board was not in agreement with the sub-group the Science Board report would need to make this clear.
- 5.4. It was noted that Science Board's implicit endorsement would be the case where it had not explicitly disagreed with a sub-group's recommendation or made a change to the recommendations within its own report.
- 5.5. The Chair presented each of Science Board's recommendations in turn for comment. Each recommendation was either agreed or amended to ensure that Science Board's view was captured. All recommendations are captured within the final Science Board report to Council.

Secretary's note: Two changes were made to the agenda:

- Science Board elected to have a closed session. This was taken after item 6.
- The decision-making process for Capital Priorities was brought forward to accommodate discussion of the capital items ahead of the Associate Director, Programmes attending a meeting on capital bids. As a result items 8 and 9 were taken ahead of item 7. The scheduled agenda order is preserved within these minutes.

6. Item 6 - Programmatic Review Report to Council, next steps (SB.13.38.02)
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- 6.1. The next steps for the Programmatic Review were discussed: The next version of the report to Council was due on the 20th June. Comments from Science Board were due on the 25th June.
- 6.2. A meeting was planned in October to discuss the outcome of the Programmatic Review with those involved. The Executive stated that it would be valuable to have Sub-group Chairs and members of Science Board present at the meeting.
- 6.3. The Executive was planning a lessons learned exercise and would present initial findings at the October meeting of Science Board.

7. Closed Session REFERENCES IN THIS SECTION HAVE BEEN REDACTED AS PROTECT: MANAGEMENT

- 7.1. STFC staff left the meeting and Science Board held a Closed Session.
- 7.2. The Chair would discuss any issues arising with the STFC Chief Executive.

8. Item 7 – Statements of Interest (SOIs) (SB.13.38.04, SB.13.38.05, SB.13.38.06, SB.13.38.07, SB.13.38.08) SOME REFERENCES IN THIS SECTION HAVE BEEN REDACTED AS PROTECT: PEER REVIEW

- 8.1. Large Hadron Collider beauty (LHCb) Upgrade
 - 8.1.1. Recognising the important scientific advances already achieved and its high priority for the UK, Science Board invited the submission of a full proposal for review by the PPRP.
- 8.2. Spatial Quantum Superposition as a Probe for New Theories in Physics (SuProbe)
 - 8.2.1. Science Board considered that inviting a full proposal for evaluation by the Projects Peer Review Panel (PPRP) was premature on technical grounds as the fundamental basis for the experiment had not yet been published in peer-reviewed form.
- 8.3. Gaia CU9: facilitating UK exploitation of Gaia data
 - 8.3.1. Science Board invited submission of a full proposal for review by the PPRP at its September meeting.
- 8.4. 21st century crowdsourcing platform
 - 8.4.1. Science Board did not invite submission of a full proposal to PPRP as the science, to the extent that it could be judged, was not considered to be competitive at the requested level of funding.
 - 8.4.2. Science Board recommended that the applicants seek funding through an alternative route, such as co-funding from multiple Research Councils or from RCUK, or crowd-funding of the projects as well as crowd-sourcing of the effort to carry them out. The STFC Large Awards Scheme was another option for

funding which the applicants could consider, although the amount available through the scheme would be a small proportion of the amount requested within the SOI.

8.5. The Sun under the microscope: detector development for the Advanced Technology Solar Telescope

8.5.1. Science Board invited the submission of a full proposal for review by the PPRP.

9. Item 8 - Decision making process for capital priorities (SB.13.38.09) SOME REFERENCES IN THIS SECTION HAVE BEEN REDACTED AS PROTECT: MANAGEMENT

9.1. The Associate Director, Programmes presented a paper on the Capital Priorities.

9.2. In all cases a business case was required to ensure that the investment was sustainable and support would have to be aimed at items which would be retained in a flat cash scenario. It was possible that a capital injection would be sufficient to get projects off the ground and they could subsequently be funded via the grants lines which were protected.

9.3. Science Board discussed the decision-making process and the priorities for the future.

10. Item 9 - e-Infrastructure update (SB.13.38.10) SOME REFERENCES IN THIS SECTION HAVE BEEN REDACTED AS PROTECT: MANAGEMENT

10.1. BIS had established an e-Leadership Council with the mandate to develop a strategy to provide a world class e-infrastructure and High Performance Computing (HPC) capability for the UK by working in partnership with stakeholders across the academic community, industry, government and society.

10.2. Research Council priorities could be fed through the cross-Council e-Infrastructure group. There were also plans (led by EPSRC) to hold an annual meeting of all relevant Research Councils and Advisory Panels.

10.3. STFC's Computing Advisory Panel was being refreshed to look across the whole 'patch'. New members had been selected from industry (potential collaborators) and facilities.

10.4. Science Board expressed concern about the absence of user input to the computing panels.

11. Item 10 - Space Weather (SB.13.38.11 and SB.13.38.12)

11.1. A draft Space Weather Strategy which had been prepared by NERC and a member of the STFC Futures team with the goal of coordinating research and operations relating to Space Weather in the absence of a current national

strategy was introduced. Science Board was invited to comment on the strategic importance of this topic to STFC and agree feedback for NERC.

11.2. The draft strategy presented three aims:

- to provide a cross-organisational framework to support space weather research and operations;
- to better link research and development to operations; and
- to encourage increased collaboration and integration.

11.3. The report made four recommendations:

- **Development of, and support for, operational activities:** The UK should develop and maintain a coordinated programme of UK space weather operations, in conjunction with international partners, to provide adequate situational awareness of space weather to Government, industry and academia to inform operational services and improve fundamental understanding of space weather phenomena.
- **Improved technology for space weather mitigation:** The UK should encourage technology developments that improve our ability to mitigate space weather impacts, especially on critical national infrastructures.
- **Improved understanding of space weather phenomena:** The UK should pursue a coordinated programme of research into space weather phenomena in areas that have clear potential for pull through into operations.
- **Organisation and management:** A UK Space Weather Strategy Board (SWSB) should be established.

11.4. Science Board discussed the report and noted that the Futures programme was funding a network in the area. It was suggested that advice from the network should inform STFC's view.

11.5. The extent to which the Space Weather Strategy was within the remit of STFC was discussed. Science Board agreed that the research relating to the Sun and the relevance of instrumentation was clearly within STFC's remit. There were synergies with solar research by the STFC community and with LOFAR and other ground-based radio facilities, and there was relevant knowledge and expertise within STFC departments. The impact of space on the Earth's environment and weather was within NERC's remit.

11.6. Science Board noted that the case for a national strategy was clear but recommended that this was within the remit of Government and Industry rather than the Research Councils.

11.7. Science Board recommended that, should a SWSB be convened, STFC should contribute and a member of Science Board should be a member.

11.8. Science Board noted that the report could have been clearer about the intended audience and who is supposed to act on the recommendations, and

suggested that the major stakeholders, strategy owners and the report's intended audience be clearly identified.

12. Item 11 - European Strategy for Particle Physics (SB.13.38.13)

- 12.1. The Director, Programmes, introduced the update to the European Strategy for Particle Physics. The strategy document had been strongly influenced by the UK and was therefore well aligned with STFC's priorities. The strategy included a number of strong recommendations directed at CERN.
- 12.2. Science Board noted the document and expressed its satisfaction with the UK involvement. There would be an updated version in five years' time.
- 12.3. The equivalent Astronomy document, the ASTRONET roadmap, was being updated, led by Professor Ian Robson, formerly of UKATC. The Science Vision had been published and was available on the ASTRONET website:
http://www.eso.org/public/archives/oldpdfs/Astronet_ScienceVision.pdf

13. Item 12 - Any other Business SOME REFERENCES IN THIS SECTION HAVE BEEN REDACTED AS PROTECT: MANAGEMENT

- 13.1. Mid-term review of the Institute for Particle Physics Phenomenology (SB.13.38.14)
 - 13.1.1. Science Board received a report on the midterm review of the Institute for Particle Physics Phenomenology (IPPP), and was asked to endorse the recommendations of the review panel and consider the timing of the proposed review of Phenomenology.
 - 13.1.2. Science Board endorsed the recommendations of the review panel and recommended conducting a review of STFC support of Phenomenology by the end of 2014.
- 13.2. Future agenda items
 - 13.2.1. The Chair requested that members of Science Board submit items that were worthy of Science Board's attention in the coming year.
 - 13.2.2. Science Board requested a meeting at CERN during the long shut-down in order to see the detectors. The office agreed to look into the feasibility and cost.
 - 13.2.3. Science Board noted that the arrangements for EPSRC funding of PhDs were changing. There was concern that this could impact the training of future users at the facilities. The Executive stated that a number of the applications for Centres for Doctoral Training (CDTs) shortlisted by EPSRC involved research relevant to the facilities. The success rate of facilities-related CDTs was similar to those without any facilities-relevant research.

- 13.2.4. The role of the European Strategy Forum on Research Infrastructures (ESFRI) in relation to large facilities and the CERN Council was raised. The Executive would provide a briefing at a future meeting.
- 13.2.5. Science Board discussed re-initiating the after dinner speakers to provide updates and topical information on different science areas. It would be important to ensure that this was not an informal way of lobbying Science Board. The office agreed to look into this.
- 13.3. UKSA Update (SB.13.37.09)
- 13.3.1. The update from UKSA was noted but due to time constraints, it was agreed that any discussion would be deferred to the Science Board meeting in July.