

Minutes of UKRI-BBSRC Council Meeting 12 June 2019

Those attending:

Professor Ewan Birney FRS
Professor Sir Ian Boyd
Professor Ian Graham FRS
Professor Laura Green
Professor Martin Humphries
Dr Deborah Keith
Professor Dame Ottoline Leyser FRS
Professor Andrew Millar FRS
Professor Malcolm Skingle CBE
Professor David Stephens
Professor Melanie Welham (UKRI-BBSRC Executive Chair and Chair of the meeting)

Also attending:

Dr Paul Burrows
Dr Amanda Collis
Paul Gemmill
Dr Karen Lewis
Dr Elizabeth Saunders
Sharon Southwood
Dr Alex Marsh
Dr Laura Notton
Dr Peter Burlinson
Dr Rowan McKibbin

Apologies:

Dr Belinda Clarke

STANDING ITEMS

ITEM 1: OPENING REMARKS (ORAL)

1. Melanie Welham, Chair, welcomed everyone to the fourth Council meeting, including Ewan Birney, who formally joined Council in April 2019. Melanie and Council formally congratulated Ian Boyd on his knighthood and bid farewell to Ian, as this was his last BBSRC Council meeting. Melanie thanked Ian for his service over the last 7 years.

ITEM 2: MINUTES OF THE MEETING HELD ON 13th MARCH 2011 (UKRI BBSRC 07/2019)

2. The minutes were **AGREED** as a correct record of the meeting. Melanie signed.

ITEM 3: PROGRESS ON ACTIONS AND MATTERS ARISING (ORAL)

3. Melanie provided Council with an update on all actions 'open' or 'in progress'.

The 'Bioscience big ideas' pilot is now open for proposals.

Amanda Collis advised that the action (Action 12-W) on ageing is now complete.

ITEM 4: EXECUTIVE CHAIR'S REPORT (UKRI BBSRC 08/2019)

4. Melanie presented her *Report from the Executive Chair*, which provided Council with an update on UKRI-BBSRC's recent activity.
5. Council were given the opportunity to ask questions.
6. Council highlighted the following:
 - a. The *Physics of Life* grants have been awarded but are not yet announced, this will take time as ministerial sign off is required.
 - b. BBSRC spent a lot of time between September and March focused on the UKRI transformation and as a result was more internally focused. Melanie noted that this is now in the implementation phase so in future the balance between the operational and strategic work will adjust accordingly.
 - c. Regarding operations and resourcing, council queried the consequences on BBSRC of UKRI transformation on the now centralised communications and engagement function. Council considered there could be reduced communications capacity as a result of the transformation. Paul Gemmill responded that we are still in the early stages and that BBSRC is due to meet with the new UKRI Director of Communications and/or her staff to discuss how this will work in future. BBSRC will have to present their needs and negotiate on those priorities before delivery of services can proceed. It is not an option to create a local communications team in addition to the central service.
 - d. Paul added that the next 3 months will require additional patience as the individual Council websites are maintained prior to migrating to the unified UKRI website. Council responded by explaining that the website is the first port of call for the scientific community and that stakeholder engagement needs to be maintained during this time. Paul reassured that core services such as calls and announcements of events would be prioritised in the meantime.
 - e. Council agreed that one unified voice (of UKRI) has benefits over 9 disparate voices and acknowledged the opportunities and challenges faced by BBSRC as it embraces an evolved corporate identity. Council hoped that UKRI will increase its investment in communications as more could be done to engage and communicate with the public and scientific community. Melanie highlighted that UKRI has been developing a refreshed and more ambitious public engagement strategy. Council advised that it is important to differentiate between communications and public engagement and that advertising is not engagement.
 - f. Council inquired about the Bioscience Institute Partnership meeting held with the Directors of strategically-funded institutes in the Spring and the progress so far made on assessing institute sustainability. Paul Gemmill informed Council that he had recently met with the institutes finance teams to look at total costs alongside the funding received to have clear evidence on the scale and significance of the issue.
 - g. Council noted that to continue with another 5 year funding cycle at the same level may lead to an accumulation of significant pressures and that colleagues looking at what self-sustaining means will have to keep in mind existing and emerging pressures. The CSR2015 settlement has in itself been a difficult challenge across the sector.

ITEM 5: UPDATES FROM GOVERNMENT DEPARTMENTS (ORAL)

7. Sir Ian Boyd (DEFRA) gave an overview of how the UK might meet a priority goal of net zero carbon emissions by 2050. Technically the UK likely has the capability but there has been slow progress made in bringing all of the solutions together. There is a risk of focusing on GHG emissions when the primary issue is with consumption and GHG removal needs to be coupled with demand reduction policy. All major economies are struggling to achieve this balance and to meeting the 2050 targets.
8. Sir Ian Boyd would like to see what strategic decisions can be made by BBSRC in order to work towards meeting the grand challenge of zero carbon emissions.
9. Ian noted that political uncertainty is one of the bigger issues in the immediate time as Whitehall works towards EU exit. He shared concerns about what EU exit would mean for UK science and recognized that the sector needs to work towards maintaining ties with Europe. CSAs are discussing how and what could be achieved if there is continued funding for Horizon 2020 and other initiatives, in addition to what can be done if there is no continued funding.
10. UKRI presents a huge opportunity and Defra wants to be able to access and draw the value out of this for relevant research issues, perhaps with matched funding initiatives. Examples of potential shared interest include: bovine tuberculosis; rift valley fever; and African swine fever. For African swine fever there is no vaccine currently available and it is spreading north through Europe and has recently been found in wild boar in Belgium. The UK is particularly vulnerable to swine fever as the nation's pig herd is exclusively raised outdoors.

ITEMS FOR DISCUSSION AND NOTE

ITEM 6: STRATEGIC ADVICE TASK AND FINISH GROUP UPDATE (UKRI BBSRC 09/2019)

11. Paul Burrows introduced the work of the Council task and finish group involved in the evaluation of the effectiveness of the BBSRC Strategic Advisory Panels (SAP) (Item 6 slides and accompanying information sent separately). The current SAP system has been in place for 7 years and, following the publication of the new Forward Look, needed review. The task and finish group developed six recommendations, the aim of which is to bring consistency and best practice across the BBSRC SAPs and make best use of the expertise in both the office and the community.
12. Malcom Skingle introduced the methodology of the task and finish group and highlighted that the recommendations made included: developing strong working relationships between the office and the chair of the SAP; allowing the chair ownership of the process and to ensure that members are actively engaged in strategic thinking in a way that makes best use of their expertise.
13. The six recommendations can be found in the slide deck of Item 6. Council **Agreed** to the recommendations.
14. Council noted that there would be a benefit in engaging more early-career scientists in the SAP process and the fellowship and future leader cohorts could be one source of potential candidates, although candidates should not be exclusively sought from these sources.
15. Council noted that a core and pool arrangement with interchangeable members would be particularly useful in the UKRI landscape and can help SAPs work towards proactively responding to the opportunities of the UKRI collective funds and work with other disciplines as the membership can be adjusted to fit the agenda.

16. Council's view was that these Panels achieve most effective outputs when they are given a clear mission and activities to accomplish. This also ensures that the Panels don't create their own agendas and are focused on the remit within the strategic delivery plan.
17. Council noted that although not captured in the recommendations, the role of Appointments Board is crucial, and the office needs to brief the Board on the new strategy advisory arrangements.
18. Council voiced concerns that frontiers biosciences could become fragmented if it is to be the responsibility of each SAP. Council agreed it should play a key role in the oversight of frontier bioscience bringing this together and this would require strong feedback from and engagement with the SAPs.

ACTION BB19-10: BBSRC Executive will take forward the recommendations and develop an implementation plan and brief Appointments Board on the new strategy advisory arrangements (Paul Burrows).

**ITEM 7: UK RESEARCH AND INNOVATION INFRASTRUCTURE ROADMAP:
PROGRESS UPDATE AND APPROACH TO FIRST EDITION INFRASTRUCTURE
ROADMAP REPORTS (UKRI BBSRC 10/2019)**

19. Amanda Collis introduced the Infrastructure Roadmap for the Biosciences, Health and Food (BHF) sectors. Council initially gave input into the road map at the Council meeting in 2018. Key milestones met since then include: The publication of the Landscape analysis (December 2018); and the Progress Report published in March 2019; with the major milestone of the first edition to be published in summer 2019. Council was asked to advise on the content of the chapter, focusing on the ideas and messages and cross cutting themes.
20. Rowan McKibbin continued the session illustrating the methodology. Council was asked to advise and comment on the 11 Bioscience, Health and Food themes set out in the draft roadmap: Multiscale Biology; Imaging; structural biology and 'omics; E-infrastructure; Biosecurity; Food safety and nutrition; Animals; Plants; Synbio and IB Innovation; Human phenotyping; Population data. The content in the chapter needs to be developed further and look at new and future capabilities. A break out session took place that focused discussion on the following 3 questions: Are the future requirements for the sector, as set out in the tables, broadly correct? Is there anything missing or that should not be included? Which of these themes are the most important?
21. The Council reconvened and were asked to share their key messages.
 - a. Council advised that it will be important to work with industry on the devices side, particularly for Synbio, IB and imaging. Further, that there are two aspects to industrial engagement: enabling industry access to instruments and collaborating with industry to develop instruments. Council highlighted that Germany is particularly strong in imaging, with positive relationships between academics and commercial partners. Council also noted the need for "social infrastructure" and the need to have networks to link the instruments to a range of academics in the community. Council advised that this requirement for social infrastructure should be embedded throughout the instrument-based chapters. Council also noted that the necessity of social infrastructure has been difficult to communicate to policy makers and is an area for further development.
 - b. Mobile measurement capability (think mobile meteorological stations with additional functions and sensors) is an urgent area for innovation for the sectors of: farming, animals, biosecurity and health (GP surgeries, hospitals). Council

advised that technology innovation in this area needs to come out more strongly in the document. Council discussed the need to have a goal for a national infrastructure for plant, human, and animal pathogens.

- c. Council noted that multinationals, such as BT and Google, are existing experts in the area of big data and have existing infrastructure and asked if collaboration could result in that infrastructure being used in new ways.
- d. Council made a general point to include government agencies as stakeholders as well as industry, when it comes to considering roll out of internet things infrastructures and the role of citizen science will also be important in achieving public engagement and successful implementation.

22. Council were then asked to highlight the crosscutting areas:

- a. Council advised, building on the social infrastructure discussion, that data management, sharing and access needs to be thought out when projects take advantage of the infrastructures in place.
- b. Council asked whether there is a pipeline for the “graceful sunseting” of existing infrastructure and asked is there an awareness of what infrastructure is in the sunseting phase? Rowan responded that only 5 infrastructures self-identified as being in the sunseting stage.
- c. Council also highlighted the need for pilot scale and contract manufacturing facilities and demonstration plants. Pilot facilities in precision agriculture will help de-risk innovation and support industry engagement. The catapult model could be relevant in this context.
- d. A point of clarification was requested on whether the roadmap focused on the benefit for UKRI, or for the benefit of national capability. Rowan advised that it was somewhere in the middle, as the request came from BEIS to develop the roadmap for these particular sectors.

23. Rowan advised that the next steps are to incorporate these comments into the report before passing to the UKRI Board for approval and subsequently to BEIS for ministerial approval. Alongside the first edition roadmap report a searchable online portal and a high-level marketing brochure will also be available.

24. Council advised that this is an opportunity to communicate the advantages of having a strong national research and innovation infrastructure. The roadmap should help demonstrate why the infrastructures BBSRC supports can make the research and innovation process more efficient and give the community the capability to carry out new discovery science, this.

ACTION BB19-11: feedback from Council discussion to be incorporated into the finalised draft of the roadmap (Rowan McKibbin).

ITEM 8: UPDATE ON SPENDING REVIEW (ORAL)

25. Paul Burrows introduced the item stating that the purpose of this session was to bring Council up to speed with where UKRI is in the spending review process.

26. Laura Notton shared the main developments so far. Treasury has mentioned that there will be further delays to the current spending review timelines. UKRI continues to plan for all eventualities (short-term review, longer term review, low, flat and increased cash scenarios). The UKRI Board will meet on 2nd July 2019 to finalise approaches. If an

increased spend is not secured the work carried out can be used to inform the process for the subsequent round and that it is worth planning for the worst whilst working for the best.

27. Council discussed the need to plan for meeting the Government target of a spend of 2.4% GDP (which would likely mean a doubling of the current UKRI budget by 2028) on research and development. This was thought to be assisted by engaging with industry and working with government departments. Ian Boyd strongly advised the Council to reconsider the likelihood of there being enough political motivation in government to continue to commit to this in light of the uncertainty caused by EU exit.

28. ACTION BB19-12: BBSRC Executive Team to keep Council updated on progress with spending review planning (Paul Burrows).

ITEM 9: HORIZON SCANNING BIOSCIENCE RESEARCH OPPORTUNITIES (UKRI BBSRC 12/2019)

29. Amanda Collis introduced this item, explaining the need for UKRI-BBSRC to be forward looking and fully aware of emerging opportunities in research and innovation. She explained that, informed by this knowledge, BBSRC will be well placed to identify priorities for new funding initiatives including bids to and UKRI collective funds.
30. Peter Burlinson explained to Council that over the last 18 months office observers have noted what excited the committees at responsive mode meetings, using this to develop a narrative to highlight emerging themes arising from the community. This information had also been supplemented with the finding from a frontier bioscience consultation with UKRI-BBSRC Fellows and members of the Pool of Experts. Informed by this input, Council was split into 3 groups around flip charts to capture what they considered to be the interesting emerging: research issues; interfaces; technologies; and grand challenges.
31. Group feedback:
 - a. Group 1: Emerging areas: (1) New approaches to investigating protein interactions and complexes. Requiring facilities for mass spectrometry and imaging suites. (2) Cells in context, explaining how they behave in a spatial context.
 - b. Grand challenges: Food and the environment: There is a need for more energy efficient and environmentally beneficial ways to produce food such as vertical farming, insects, plastics and selecting for plants that can increasingly capture carbon.
 - c. Group 2: Emerging areas; (1) Gut microbiome and cognitive function. (2) Soil health and capability for carbon capture. (3) Forestry as farming: polyculture verses monoculture.
 - d. Technology: CRISPR is now well developed but it needs to be widely accessible across industry and academia.
 - e. Group 3: Emerging areas: Exploring the relationship between genotype and the environment to be able to better predict phenotypes. This would be useful in precision agriculture, health, and ageing research. The area would need capability for multiscale analysis and modeling although not at the expense of mechanistic research. An engagement piece to help the public understand technologies, such as “23 and me”, and what the data means and how it can be used in the future.

32. Melanie suggested that perhaps these ideas would be worth putting through the big ideas pipeline to capture and join up the different themes discussed.

ACTION BB19-13: BBSRC to consider these areas as part of on-going strategic development and alongside the ideas submitted to the 'Bioscience Big Ideas' pilot (Peter Burlinson)

ITEM 10; GLOBAL CHALLENGES RESEARCH FUND: PROGRESS UPDATE AND FORWARD LOOK (UKRI BBSRC 13/2019)

33. Amanda Collis introduced this item, explaining what the Global Challenges Research Fund (GCRF) is and highlighting the progress made to date. Council was asked to note this activity; reflect and comment on UKRI-BBSRC's portfolio of GCRF investments; discuss future opportunities and priorities; and consider potential future activities and were given the opportunity to ask questions.
34. Council asked about the overall governance arrangements for the GCRF programme. Amanda explained that there is oversight from BEIS and overall leadership is provided by Professor Andrew Thompson, Executive Chair lead, International shared capability.
35. Council asked who makes the call on funding emergency situations. Amanda explained that some flexibility is held within the centrally held collective funding and, to a lesser extent, in the GCRF funding allocated directly to BBSRC.
36. Council noted that GCRF calls had been rapidly deployed and asked whether there is a risk that BBSRC might not be able to spend quickly enough whilst maintaining the priority of spending well. Amanda confirmed that international development focused peer review had been completed and expenditure was on track. She also commented that expenditure was closely managed due to the higher risk of slippage occurring in complex overseas partnerships.
37. Council also stated their concern that the community is limited in its ability to rise to the challenge because of the tight timelines and GCRF being such a new form of funding. It is important to question that although the programme was successful, was it as good as it could have been.

Amanda responded that some parts of the community were readier to respond than others. For example, the agriculture and food security community had a strong first response. Industrial biotechnology communities were less ready and there were calls released to create networks and partnerships in other countries before moving forward with a dedicated research funding call.

38. Council questioned whether the distribution of projects across BBSRC's remit, weighted towards agriculture and food production, is the right balance. Council made the point that there would be something to gain by adjusting the balance from the top down to prevent other areas from being underinvested. Amanda responded that BBSRC is reliant on the readiness of the particular communities and steps were taken to ensure those communities were engaged.
39. Council asked if there are opportunities to engage with other funders such as the Wellcome Trust and the Bill and Melinda Gates Foundation (BMGF). Amanda noted that there had been good engagement with the BMGF both in the scoping of calls and in assessing the international development relevance of proposals.
40. Council queried to what extent does GCRF consider the capacity building element in the partner country. Amanda responded that this is an area in which GCRF was delivering real impact. She added that having co-investigators in the partner country on a proposal

ensures that a UK based PI works within a partnership informed by in country understand and project proposals are co-designed to meet local needs from the outset with local research and makes sure that the programme can meet local needs. Amanda then highlighted the GCRF GROW scheme which made a programme of investments focused on capacity building in DAC listed countries.

41. Council noted that there is a need to ensure that call scopes are designed according to the absorptive capacity of the target community and there seems to be a huge opportunity to collaborate with social scientists to get the best out of projects.
42. Council asked to what extent thinking from DFID and other departments has been integrated into the GCRF programme. Amanda advised that DFID have been engaged and she would also like to improve links with the Department for Health and Social Care in the future. For example, there is work ongoing to collaborate with NERC, Department for Health and Social Care and Argentina on antimicrobial resistance in agriculture and the environment.
43. Looking ahead, Council asked if GCRF funded studentships could be integrated into the doctoral training programmes. Amanda explained that studentships had not featured in GCRF to date and were being considered as a part of the planning for future phases. Council thanked Amanda for the annual progress update on GCRF and noted that the input provided would feed into UKRI-BBSRC's on-going review of bioscience for international development and subsequent spending review planning.

ACTION BB19-14: BBSRC to consider this input as the review of bioscience for international development is finalised and as a part of spending review preparations (Amanda Collis).

ITEM 11: 6 MONTHLY RISK REGISTER DISCUSSION (UKRI BBSRC 14/2019)

This item was recorded separately as it was deemed business sensitive.

ITEM 12: ANY OTHER BUSINESS AND COUNCIL FORWARD LOOK WORK PLAN (UKRI BBSRC 15/2019)

44. Building on the remit for Council to provide forward looking strategic advice and noting the topics raised during the dinner discussion, Amanda suggested that agenda items for the next meeting could include; review of the bioscience big ideas pipeline proposals; the synthetic biology and industrial biotechnology interface; multi-scale biology; discussion of Council's responsibility regarding frontier bioscience.
45. Council discussed if the meeting should always be in London and that Birmingham is a strong candidate as an alternative location.
46. The next Council meeting will be in London on 27th September 2019.

Council Secretariat
June 2019

Actions

Agenda Item	Description	Owner	Status
Actions from 12 June 2019			
6	<i>BBSRC Executive will take forward the recommendations and develop an implementation plan and brief Appointments Board on the new strategy advisory arrangements.</i>	<i>Paul Burrows</i>	In progress.
7	<i>Feedback from Council discussion to be incorporated into the finalised draft of the roadmap.</i>	<i>Rowan McKibbin</i>	In progress.
8	<i>BBSRC Executive Team to keep Council updated on progress with spending review planning.</i>	<i>Paul Burrows</i>	Ongoing.
9	<i>BBSRC to consider these areas as part of on-going strategic development and alongside the ideas submitted to the 'Bioscience Big Ideas' pilot.</i>	<i>Peter Burlinson</i>	Ongoing.
10	<i>BBSRC to consider this input as the review of bioscience for international development is finalised and as a part of spending review preparations.</i>	<i>Amanda Collis</i>	In progress.
11	<i>BBSRC to consider the input from Council when updating the risk register.</i>	<i>Lucy Davidson</i>	Complete.

