

UK RESEARCH AND INNOVATION ENGINEERING AND PHYSICAL SCIENCES RESEARCH COUNCIL

NOTE OF THE 8th EPSRC SCIENCE ENGINEERING AND TECHNOLOGY BOARD (SETB) MEETING, HELD ON 14 SEPTEMBER 2021, HELD REMOTELY VIA ZOOM

In attendance:	Charlotte Deane (Chair) Paul French (Imperial College London) Jane Jiang (University of Huddersfield) Jonathan Legh-Smith (BT) Graham Niblo (University of Southampton) Mike Sutton (Lubrizon) Phil Taylor (University of Bristol) Adrian Mulholland (University of Bristol) Cameron Alexander (University of Nottingham)
Apologies	Leigh Lapworth (Rolls-Royce) m. c. schraefel (University of Southampton) Su Taylor (Queens University Belfast) Nick Jennings (EPSRC Council) Susan Rosser (University of Edinburgh) Joe De Sousa (EPSRC Council) Jane Nicholson (EPSRC Director, Research Base)
EPSRC Staff:	Andrew Bourne (Director, Partnerships) Kedar Pandya (Director, Cross Council Programmes) Rachel Bishop (Deputy Director, Research Base) Claire Spooner (Head of Decarbonising Transport) Daniel Smith (Head of Physical Sciences) Sarah Newman (Senior Manager, Physical Sciences Theme) Diane Howard (Senior Manager, Managing our Portfolio and Priorities) Gemma Hulkes (UKRI Communications Team)
Secretary:	Jessica Bonham (Senior Manager, Governance and Planning) Bethany Wyatt (Executive Assistant, Governance and Planning)

1. Welcome, briefing, EPSRC update and de-brief from July Council

- 1.1. The SETB chair (CD) welcomed everyone to the meeting and formally opened the meeting, Apologies had been received from Leigh Lapworth, m. c. schraefel, Su Taylor, Nick Jennings, Susan Rosser, Joe De Sousa, Jane Nicholson.
- 1.2. Rachel Bishop (RB) gave an update on the Institutes evaluation framework following the May meeting and recent meetings on Institutes with the UKRI commercialisation team, UKRI research sustainability team and discussions on levelling up.
- 1.3. CD updated on the board on other developments since the May meeting, including future plans for SETB meetings and regional big ideas.
- 1.4. SETB agreed that the note of the May meeting was an accurate record of the meeting.

1.5. CD reviewed the actions from the previous meeting:

Action	Description	Owner	Update
07-01	EPSRC colleagues to produce institutes feedback, get it approved by SETB chair and lead introducers and share with Institutes team	EPSRC colleagues	Complete – additional documents were presented to SETB in the reading room
07-02	EPSRC to produce a paper on top tips for setting up an institute and encourage institutes to learn from each other, including those in other councils.	Rachel Bishop	Ongoing
07-03	SETB secretary to plan a schedule for future SETB meetings based on the suggestions	SETB Secretary	Complete

2. Spending Review Update and Discussion

- 2.1. CD gave an update on the spending review bid being developed by UKRI, which was formally announced on the 7th September. UKRI submitted their bid to BEIS on the 13th September and are expecting the budget to be announced in November.
- 2.2. SETB discussed future institutes funding and the role they should have in reviewing this, which will depend on the timing and funding available. It was agreed that SETB should play a role in reviewing institutes if possible and could be involved in forward planning of institutes.

3. COP 26 Update

- 3.1. Claire Spooner (CS) gave an update on COP26 activities being undertaken by EPSRC and UKRI. SETB welcomed this update and were interested in how we are measuring our success against our objectives and how we are promoting underpinning EPSRC research that supports the Net Zero agenda.

4. UKRI Strategies Update

- 4.1. CD gave an update on the UKRI strategy development and SETB provided some feedback, focusing on the overall structure of the strategy:
 - The priorities could highlight the importance of international and business collaborations further
 - It is useful to further understand how the UKRI strategy links to other UKRI and Governmental strategy documents such as the Innovation Strategy and People and Culture Strategy.
 - SETB discussed issues with IP and open-source research and the role that research councils can play in improving university and business collaborations
 - SETB discussed challenges with the current talent pipeline and how we can improve the career journey for early career researchers. The strategy could say more on how we will maximise the potential of our talent.
 - SETB welcomed the long-standing priorities and raised that it would be beneficial to identify how we are currently performing against these priorities.

- SETB discussed challenges with long term funding and the role that UKRI and EPSRC play in this.
- Efficiency and effectiveness need to be tied in together

5. Digital Chemistry and Materials Discovery Update

5.1. Daniel Smith (DS) and Sarah Newman (SN) attended to present an update on Digital Chemistry and Materials Discovery strategy development. SETB were asked for feedback on:

- The level of ambition within the vision and definition of Digital Chemistry and Materials Discovery
- The identified areas forming the initial framework and missions
- Further missions to consider or angles to take within the identified missions

5.2. SETB welcomed the work that has been done on this and the update provided and thought that this opportunity is timely. Key points provided by SETB were:

- Our strategy should extend beyond standard drug discovery, and include all pharmaceutical ingredients, formulations, biomedical materials and complex mixtures and combinations. Process chemistry is missing from the paper.
- SETB raised concern that whilst there is some overlap, digital chemistry and materials discovery are quite different and combining them in this way may result in some nuances being lost, especially the more physics side of materials discovery. It may be better to split the strategy into 3 overlapping strands. They also highlighted that EPSRC should consider what kind of budget may be available and what is achievable.
- The opportunity is in the interface between digital chemistry and materials discovery and bringing these communities together, but the challenge is not making the topic too large
- SETB identified links between this item and the upcoming Big Idea and highlighted the opportunity to incorporate this idea into the strategy.

5.3. The Physical Sciences theme will continue to develop this strategy and may engage with SETB members further as needed.

6. Big Ideas Communications

6.1. CD introduced the item, which follows on from the July Council Meeting, and aims to discuss how EPSRC communicate the number of different ways Big Ideas are used Diane Howard (DH) gave an overview of how Big Ideas have been used (for example: inputting into EPSRC strategy, inputting into Governmental priorities and for funding opportunities). SETB split into breakout rooms and were asked to contribute the following:

- Two communication objectives for Big Ideas
- A 'call to action' for the community that can be conveyed in all communications

6.2. The breakout groups discussed the different audiences for our communications and how we can reach out to new audiences as well as what success looks like and how to promote the benefits of submitting a big idea

6.3. Gemma Hulkes took an action to draft SETB's communications objectives and call to action and will follow up with SETB at a future meeting.

7. Big Ideas Update on Previous Big Ideas

- 7.1. CD and DH introduced this session and the four updated items to be discussed.
- 7.2. SETB discussed the four updated ideas, as all of these ideas have been discussed at SETB meetings at least once before, at this stage, SETB focused on a final outcome for the ideas. The following soft conflicts were declared during the meeting: Adrian Mulholland with BIG 18-15 and Graham Niblo with BIG 18-18. The Big Ideas discussed along with the overall SETB recommendations are listed below:

Ideas reference	Title	Submitted by	Recommendation	Next Steps
BIG 18-15	Computer-Aided Whole-Cell Design	Lucia Marruci (University of Bristol)	SETB recognised that the revised submission had addressed feedback from previous versions, but agreed not to enter it into the Ideas Bank	Link applicant to a similar idea that is being developed.
BIG 18-18	Making Senses: Enabling sensors for the sustainable low-cost internet-of-things	Jeremy Baumberg (University of Cambridge)	SETB recognised that the revised submission had addressed feedback from previous versions, but agreed not to enter it into the Ideas Bank	N/A
BIG 20-02	(R)Evolution: Engineering and Controlling Evolution	Guy-Bart Stan (Imperial College)	Add to the Ideas Bank	N/A
BIG 20-12	Metamaterials Revolution: Next generation control of energy and information	EPSRC's Materials Theme	Add to the Ideas Bank	N/A

8. Big Ideas – Assessment on new Big Ideas

- 8.1. CD and DH introduced this session and the new Big Idea to be discussed. Paul French and Cameron Alexander declared a soft conflict with the discussed Big Idea. The new Big Idea discussed along with the overall SETB recommendation is listed below:

Ideas reference	Title	Submitted by	Recommendation	Next Steps
BIG 21-02	Closed-loop interpretable AI for biological	Geoff Baldwin Imperial College	SETB were supportive of this submission, recognising its potential, strategic importance and scale of ambition, and have made	Develop further; with a workshop

	systems design and engineering		a recommendation for it to be further developed. SETB would like further detail on specific use-cases/applications, including demand for these applications and for the submitters to broaden the community with whom they are currently engaging on the idea. SETB also commented that what makes this idea really compelling is the integration of AI with the experimentation in closed-loop. They recommended reframing the idea's title and pitch to better reflect this.	
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9. AOB and Close

The next meeting of the EPSRC Science, Engineering and Technology Board will be held on the 8 February 2022.

Summary of actions:

Action	Description	Owner	Status
08-01	Share the slides from the meeting with SETB afterwards.	Beth	Complete
08-02	Invite Claire Spooner back to SETB to update on COP26 after the activities have finished	Jess	
08-03	Gemma to establish 3 communications objectives and call to action based on the discussions from the breakout rooms	Gemma Hulkes	