

Meeting of UKFN Executive Committee

10:00, Monday 20 July 2020
via MS Teams

MINUTES

Present:

Matthew Juniper (Chair)
Nick Daish
Matthias Heil
Ignazio Viola
Neil Sandham
Steve Tobias
Yannis Hardalupas

1. Welcome

The Chair welcomed the two new EC members, MH and IV, and thanked ST for continuing until colleague Cath Noakes is able to take over.

2. Minutes of last EC meeting (23/3/20)

3. Outstanding actions

Discussion of the survey on fluid mechanics in the UK was deferred to Item 8.

4. Thesis competition

The EC discussed the shortlist of 3 nominations, each member outlining the reasons for their ranking of the nominees. Having reviewed the rankings before the meeting, MJ noted that it had not been possible to separate the nominees based on members' first, second or third choices, and on this basis proposed all three be declared joint winners, sharing the prize, to which the EC agreed.

ST noted that LIFD/JFM had agreed to dedicate one slot in the next series of online fluids seminars to the winner of the thesis competition, but would check with the organisers whether this could be extended to the three joint winners, with a slightly longer seminar to give additional time to each speaker.

Action: ND/MJ to circulate competition result to participants by 22/7/20. (Complete)

Action: ST to investigate options for LIFD/JFM/UKFN online seminar to feature all three joint winners by 14/8/20.

5. SIGs

MJ noted that there had been 2 confirmed online meetings by SIGs since the end of the grant, and MH noted a third¹. From the personal experience of the EC members, the meetings had

¹ The 3 SIGs were: 'Flow Instability, Modelling and Control' and 'Urban Fluid Mechanics', plus 'Non-Newtonian Fluid Mechanics'.

been successful, gaining a large audience (>100 viewers) and a global reach; however, the main element missing compared with a face-to-face meeting was the opportunity for 2-way discussion. So for future online meetings, the challenge was how to incorporate this aspect.

ST reported that the Journal of Plasma Physics had been running a series of online seminars, using Zoom, that incorporated 'breakout rooms', whereby randomly-chosen subsets of the attendees could chat together online for pre-determined periods before and after the seminar.

With the ongoing COVID-19 restrictions, online meetings will be increasingly the norm, so it would be helpful to pool experiences from around the SIGs and share them as best practice. MJ agreed to ask for this information from SIG leaders and collate a document for sharing.

IV suggested a call for new SIGs at some stage this year. ND noted that the EC had previously agreed to set up a long-term open call, with annual monitoring of all SIGs to ensure a minimal level of activity was met, and retirement if no activity for 18 months. The plans were currently on hold, but the EC agreed they should commence later in the year.

Note

The Chair omitted to discuss the agenda item on overseas SIG membership; this will be postponed to the next EC meeting.

Action: MJ/ND to contact SIG leaders about their experiences with online meetings by 14/8/20.

Action: MJ to compile best practice document and circulate to SIG leaders by 31/8/20.

Action: ND/MJ to implement plan for open SIG call later in 2020.

6. UKFN Advisory Board refresh

MJ noted the AB had agreed to a review and refresh, and agreed to write to its members to ask whether they wished to continue to participate on the Board or would prefer to step down.

MJ suggested the member rôles most likely to be due for a refresh were

- (i) at ECR level in the UK, e.g. research fellows
- (ii) at a high level in UK industrial research
- (iii) with links to researchers in the US

ST suggested a missing facet of the AB was someone with policy background, so it would be worth seeking in addition an individual

- (iv) who is or has been at a high level of policy for science (e.g. funding council), or science for policy (e.g. chief scientific advisor)

YH commented that research expertise including aerosol dispersion could be a useful asset for the AB in the light of the current COVID-19 emergency.

The EC agreed to send in their ideas for replacements once the vacant rôles had been confirmed by MJ. ST agreed to ask Cath Noakes for ideas for candidates with a political/policy background, since she is currently active on SAGE and, along with ST, has extensive contact with the research councils through LIFD; she is also an expert in aerosol dispersion and related fluids problems.

Action: ST to consult CN on suggestions for AB with political/policy background by 7/8/20.

Action: MJ to write to current AB members regarding refresh by 7/8/20, and to EC regarding which rôles will rotate by 14/8/20.

Action: All EC to return ideas to MJ/ND by 21/8/20.

7. UKFN/LIFD collaboration

8. Big Ideas in Fluids

These two items were taken together, and discussion was prefaced with some background from ST and MJ.

ST first outlined how LIFD has been discussing working with UKFN on the production of a 'state of the nation' report to highlight the importance of fluid mechanics in the UK, inspired by an earlier report by the UK Acoustics Network (UKAN) that focused on the contribution of acoustics to the UK economy. UKAN had found the document very useful, in particular in conversations with EPSRC on funding. Although the economic contribution of fluid mechanics would be even greater, the discipline is too broad to quantify the impact easily, raising the question of what a UK fluids review should include. Various discussions between LIFD and UKFN had concluded there should be consultation with the community, resulting in a draft survey document, to be discussed.

MJ then described how, in a parallel activity, Andrew Lawrence at EPSRC had requested research ideas from the SIGs that could form a cache of outline proposals on fluids. MJ had consulted the SIG leaders and sent a set of around 25 ideas to EPSRC, but the feedback from AL was to be more ambitious and propose a large-scale initiative for UK fluid mechanics. The survey on what to put in the UK fluids review was therefore expanded to the importance of fluids, how to characterise it and what is needed for the fluids community.

During a wide-ranging discussion, the following points were contributed.

Ideas about what the initiative could involve

- Ideas for the initiative should be 'bottom up', from the community, including how to run the initiative and how to spend the budget
- Lots of small ideas may be worth more than one big idea; the challenge is to create a framework for these ideas to make them seem coherent
- Fluid mechanics has many versatile tools that can apply across a wide range of applications
- Access to Tier 1 computational facilities dedicated to fluid mechanics
- Expanded experimental facilities, e.g. EnFlo at University of Surrey, or the set of wind tunnels in NWTF – are these sufficient?
- Continued expansion of renewable energy sources and development of effective CO₂ removal technologies are important to the UK government's commitment to low-carbon future, but are existing research facilities sufficient?
- Pipeline of people will be important to any initiative
- 'Data in fluids', since 'big data' is currently a hot topic in government

Survey content/format

- State the motivation for the survey at the top, including how the information will be used, the ongoing discussion with EPSRC and what might come out of this. It is vital to

engage the reader and motivate them sufficiently that they will start – and complete – the survey.

- Look forward to what the initiative can achieve, not back to what the UKFN has achieved – UKFN was a success, and now we have this important and exciting opportunity to take things to the next level
- Make sure people know that the outcome of the survey will contribute to a document that will go to EPSRC
- Ask the most important questions first, moving ‘information about you’ to the end
- Ask more focused questions, as currently they seem too generic
- Offer a ‘Not applicable’ option to all relevant questions
- Google Forms would provide a straightforward and flexible platform that (a) provides a suitable range of question formats (check boxes, radio buttons, free text) and (b) provides one-click collation of all responses into spreadsheet format

Action: MJ to contact NWTF to ascertain current status by 14/8/20.

Action: ST/CN/MJ to revise draft survey document by 14/8/20.

Action: MJ/ND to circulate revised draft to EC for comment by 21/8/20.

Action: MJ/ND to circulate final draft to SIG leaders and institutional points of contact by 28/8/20.

9. AOB

The next EC meeting had been scheduled for September 2020, but the EC agreed to monitor the need for a meeting over the rest of the year and arrange one as required.

NCD/MPJ, 4/8/20