

Meeting of UKFN Executive Committee

10:00-13:00, Thursday 18 July 2019
Room 4.13, School of Civil Engineering, University of Leeds

AGENDA

Attending

Matthew Juniper (Cambridge)
Nick Daish (Cambridge)
Anne Juel (Manchester)
Neil Sandham (Southampton)
Steve Tobias (Leeds)
Yannis Hardalupas (Imperial)

Peter Jimack (Leeds Fluid Dynamics CDT)
Cath Noakes (Leeds Fluid Dynamics CDT)
Claire Savy (Leeds Fluid Dynamics CDT)

Overall schedule

10:00 – 10:30 Executive Committee business
10:30 – 11:45 Future activities of UKFN and role of Leeds Fluid Dynamics CDT/Leeds Institute of Fluid Dynamics
11:45 – 12:00 Diversity issues
12:00 – 13:00 Tour
13:00 – 14:00 Lunch

10:00 – 10:30 Executive Committee business

1. Agree the **Minutes** of last EC meeting (17/1/19).
2. Review **outstanding actions** from last EC meeting
3. Discuss **website**:
 - a. review current status
 - b. discuss planned developments
 - c. comments from Neil
4. Discuss **SIGs**:
 - a. review status of SIGs, including expenditure
 - b. comments from Matthew
5. Discuss **SRVs**:
 - a. review status of SRVs, including expenditure
 - b. comments from Yannis
6. Discuss **overall UKFN budget**:
 - a. overview of expenditure to date
 - b. proposals for expenditure over remainder of project

7. Discuss use of **supplementary fund** from project partners
 - a. review current use and discuss future use of supplementary fund
 - b. comments from Steve
8. Discuss UKFN **engagement with other organisations and activities:**
 - a. EPSRC
 - b. ERCOFTAC
 - c. ERCOFTAC Osborne Reynolds Day
 - d. UK Fluids Conference
 - e. JFM/Tom Crawford
 - f. MathsWorldUK
9. Any other business
10. Next meeting
11. Group photo

10:30 – 11:45 Future activities of UKFN and role of Leeds Fluid Dynamics CDT/Leeds Institute of Fluid Dynamics

12. **Introduction/context** for non-EC members
13. Report on the relevant activities and experiences of the **UK Acoustics Network**
14. Discuss UKFN future **activities, responsibilities and funding**
 - a. Newsletter
 - b. Website
 - c. SIGs
 - d. Competitions
 - e. Outreach
 - f. Other
15. Discuss the possibility of seeking **additional funding for UKFN as a whole** after the end of the grant

11:45 – 12:00 Diversity issues

16. How could UKFN help improve diversity in the UK fluids community?

12:00 – 13:00 Tour

13:00 – 14:00 Lunch

MPJ/NCD, 17/7/19

Item 2: Outstanding actions from previous EC meeting

The following actions relating to website functionality are all ongoing, and form part of planned developments, for discussion under Item 3b:

- Open up contribution of news items (displayed on the Home page) to UKFN members
- Add further interactivity in the Directory search results
- Modify the Talks page to include a list of links to UK fluids talks web pages

Item 3: Website

Updated

Home page (<https://fluids.ac.uk>): The popularity of UKFN on Twitter (@UKFluidsNetwork) continues to grow steadily, with 1,367 followers (up from 1,131).

SRV page (<https://fluids.ac.uk/srv>): This is kept updated with the latest SRVs, so there are now 86 on the page, 52 with visit reports.

Talks page (<https://fluids.ac.uk/talks>): Following discussion at the last EC meeting, this has been retained, and has recently had 17 talks added, comprising 10 Southampton Aerodynamics & Flight Mechanics seminars and 7 Cambridge Engineering Fluids seminars.

Gallery page (<https://fluids.ac.uk/gallery>): This is a new high-level section, replacing the previous Competition menu item (contents transferred to the Connect page). It displays all photo and video entries from each of the 5 UKFN competitions to date, and more will be added from future competitions.

Mailing list (all@lists.fluids.ac.uk): The problems with spam subscriptions using personal email addresses appears to have abated, and the offending subscriptions (numbering more than 3000) have been removed, following requests in the newsletter for direct confirmation of genuine personal email addresses. Better 'captcha' verification may be added.

Google Analytics

The average viewing figures have been fairly constant over the past year, with around 3000 unique page views per month. The most visited top-level pages are SIGs and SRVs, as expected, followed by Talks, Competition and Researcher Resources. Some individual SIG pages also feature among the most visited: these are all SIGs who have used their pages to give information about meetings, both forthcoming and completed (some with links to the presentations).

Planned developments

- Overall, the website now has all the functionality needed for the long term (except to make all parts editable via the content management system), and it is a good time to iron out any irritations, and to carry out a general tidy-up and optimisation to make it smoother and more responsive.
- The Gallery page (<https://fluids.ac.uk/gallery>) will be expanded to include the growing library of videos made by Tom Crawford interviewing fluids researchers (see also Item 8e).
- The three points listed earlier under Item 2 will be re-assessed and implemented if considered effective use of time.

Would all members of the EC look through the website and suggest any things they think should be improved.

Item 4: Special Interest Groups

Current status

UKFN was granted a 6-month no-cost extension by EPSRC, on the grounds this would allow SIGs to complete their meeting plans and thereby avoid unspent grant money, so that the revised end date for the grant is now 29 February 2020. SIG leaders have been requested to complete all activities requiring reimbursement by 15 January 2020 and if possible to submit invoices by the end of the month.

This has had a significant effect on the meeting schedule, as characterised by the number of meetings by month shown in Figure 1.

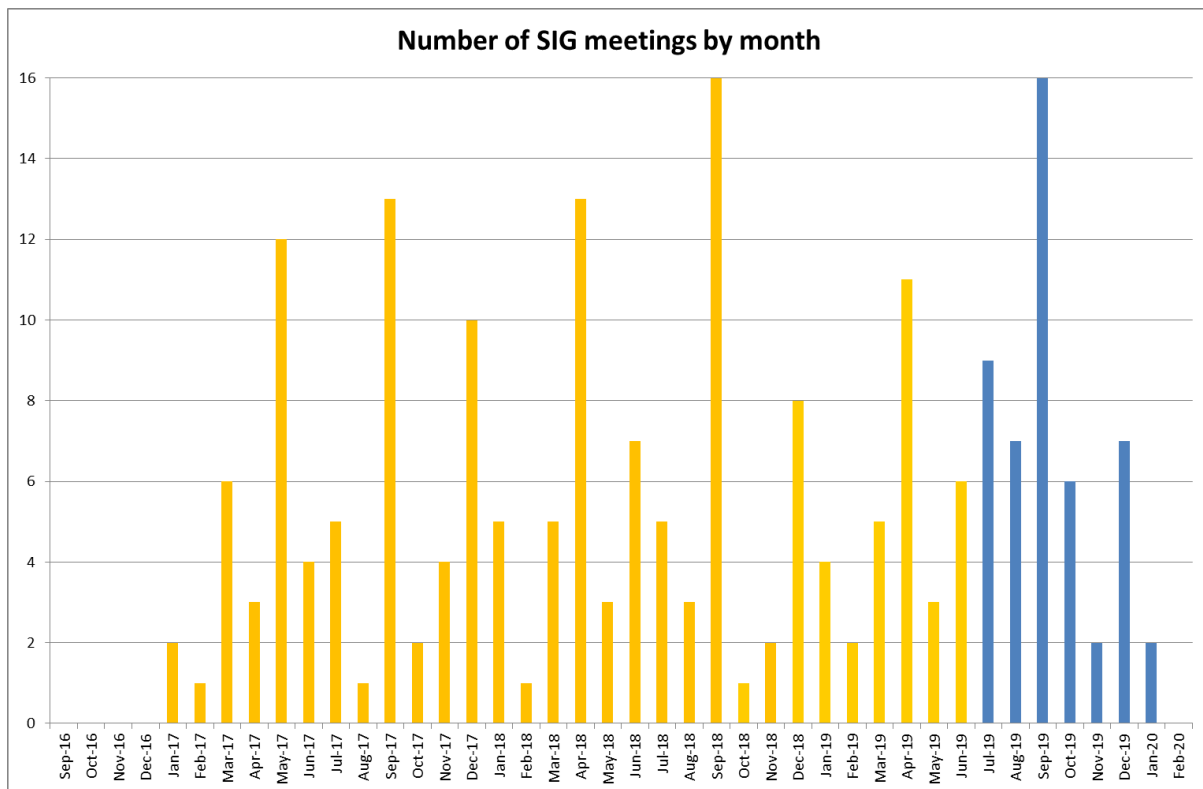


Figure 1: Number of SIG meetings completed (orange) and planned (blue) by month.

The no-cost extension has eased considerably the time pressure on SIGs to complete all their planned meetings, although there is still a spike in September (as in previous years). Approximately two-thirds of SIGs have 1 meeting and the remainder 2 meetings to complete.

SIG collaborations

There have been further technical collaborations between SIGs:

- (i) A joint meeting between the 'Combustion science, technology and applications' and 'Sprays in engineering applications: modelling and experimental studies' SIGs at Imperial on 8-9 April 2019
- (ii) Another ECR event took place at Nottingham Trent University on 8 April 2019, jointly involving the 'Droplet and flow interactions with bio-inspired and smart surfaces' and 'Multi-scale and non-continuum flows' SIGs.

There will be a cluster of meetings at the ‘Droplets 2019’ conference in Durham (16-18 September 2019); and 3 SIGs have combined contributions to help ECRs attend the Viscoplastic Fluids 8 conference (Cambridge, 16-20 September 2019).

Finally, a SIG Leaders’ dinner is planned for the evening of Tuesday 27th August in Cambridge near the start of the UK Fluids Conference (see Item 8d). Around half the SIGs are currently represented. It will provide an opportunity to review the current status and discuss ideas for the future.

Expenditure

The final round of consultation with the SIGs on their spending plans took place during May and June 2019. The spending cap for each SIG was reviewed in the light of its planned activities, and increased or decreased relative to the previous plan.

An increase in the spending cap was possible for all those SIGs who requested additional funds, which in most cases was a direct result of the no-cost extension easing time constraints and allowing SIGs to reinstate cancelled meetings.

This was balanced by some SIGs reducing planned spending or, in the case of the ‘Turbulent free shear flows’ SIG, winding up.

As before, in all cases, the cap slightly exceeds the SIG’s spending plan total to allow a small contingency for each SIG – across all SIGs this comes to £17,700 over and above the spending plan total.

The cumulative total expenditure is shown in Figure 2, and plots the total SIG spending, combining actual funds already spent with projected spending from the SIG spending plans.

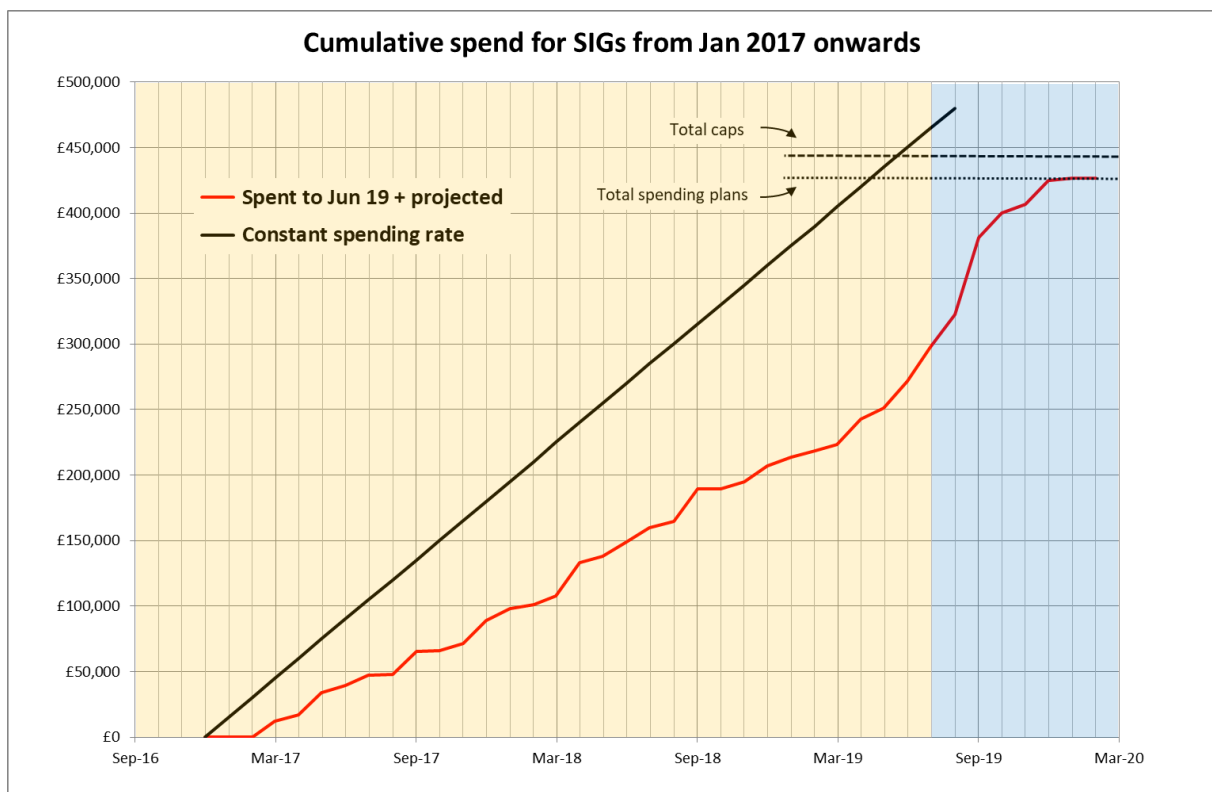


Figure 2: Cumulative spend by SIGs from January 2017 to February 2020.

There is currently a projected underspend of £53,187, based on spending plans, or £35,425, based on spending caps. Note that some of this has already been reallocated to SRVs.

Item 5: Short Research Visits

Current status

There have been 9 batches funded, totalling 86 SRVs:

- (a) Call ending 31/1/17: 5 SRVs allocated, all 5 complete
- (b) Call ending 31/5/17: 6 SRVs allocated, all 6 complete
- (c) Call ending 30/9/17: 5 SRVs allocated, all 4 complete
- (d) Call ending 31/1/18: 13 SRVs allocated, with 12 complete, 1 ongoing
- (e) Call ending 31/3/18: 7 SRVs allocated, all 7 complete
- (f) Call ending 31/5/18: 12 SRVs allocated, with 9 complete, 2 ongoing, 1 yet to start
- (g) Call ending 31/7/18: 6 SRVs allocated, with 4 complete, 2 ongoing
- (h) Call ending 30/9/18: 10 SRVs allocated, with 7 complete, 3 ongoing
- (i) Call ending 31/1/19: 22 SRVs allocated, with 5 complete, 11 ongoing, 6 yet to start

There will probably be no further calls, unless an underspend resurfaces, in which case a very small-scale call for short-term SRVs could be run (discussed further in Item 6).

Expenditure

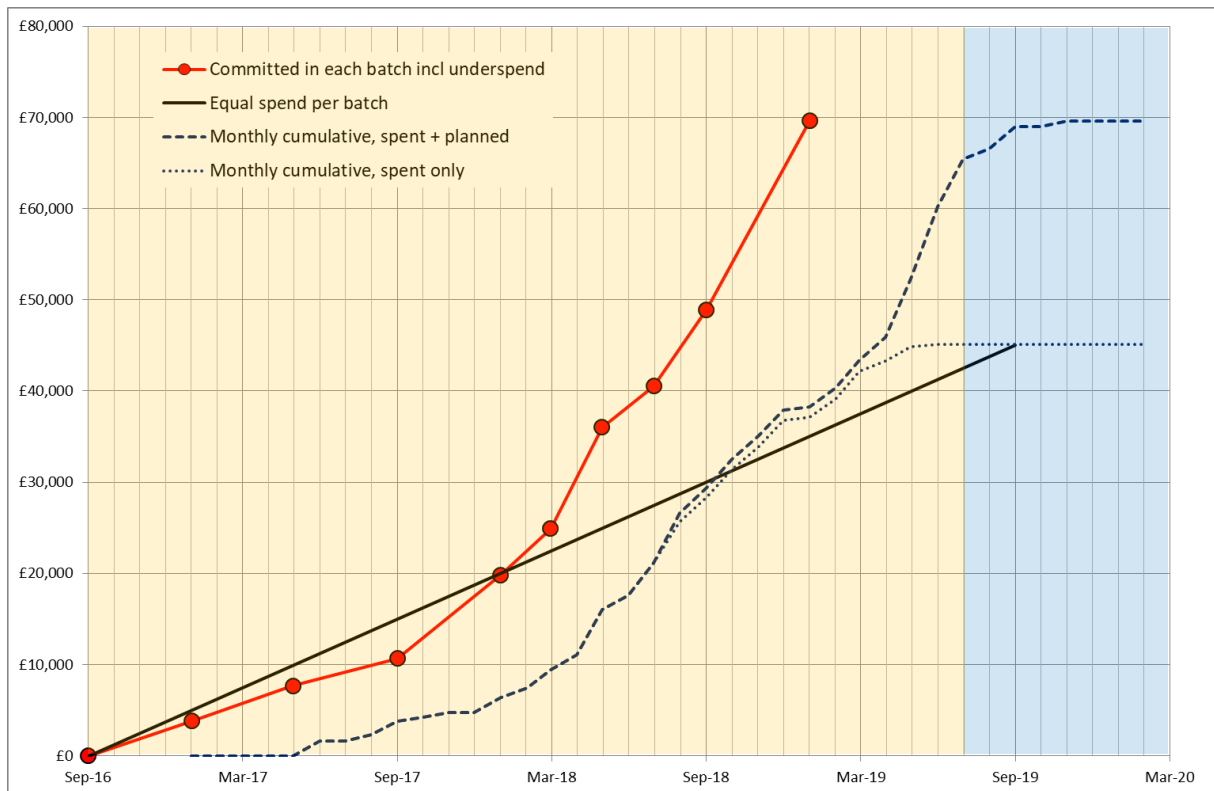


Figure 3: Cumulative spend on SRVs, by batch, from January 2017 to February 2020.

The total of funds spent for completed SRVs and committed for incomplete SRVs, up to the call ending 31 January 2019, is £69,612. This exceeds the £45,000 earmarked for SRVs in the grant proposal, but the overspend is being covered by reallocation of unspent SIG funds and other travel and subsistence money (see Item 6).

Item 6: Overall budget

The expenditure for SIGs and SRVs was reviewed in Items 4 and 5, respectively. As far as the grant is concerned, spending comes under Travel & Subsistence (T&S) for both of these, and so is essentially interchangeable: thus the increased spending for SRVs is covered by part of the underspending by SIGs.

Taking this into account, and combining the SIG and SRV totals with other completed meeting and event costs (principally the 2016 launch event, the 2017 and 2018 SIG leaders events, other outreach), the T&S budget shows an underspend of around £40K.

Of this, £18K is a contingency set aside to cover additional SIG spending (the difference between the spending plans and caps, discussed earlier), leaving around £22K for other activities. Of this, around £6K will be used to cover T&S for other meetings and events (EC meeting, 2019 UK Fluids Conference and SIG dinner), leaving £16K.

Suggestions for use of this include the following.

- Another, final round of SRVs. The challenge here is that the SRVs must be completed by January 2020, but applicants need sufficient time both to plan the work and arrange a date. Possible parameters for the call could be:
 - * Fix budget at say £10K
 - * Specify a deadline for proposals, such as 31 August 2019, but accept earlier applications.
 - * Set a maximum amount for a given SRV, such as £800 or £1,000, to avoid early applicants using up the budget? Or say 'preference will be given to applications less than £X'?
- Additional outreach activities
 - * Tom Crawford could attend the 2019 APS-DFD meeting to interview fluids researchers about their research. His 2017 visit yielded a substantial amount of material (see Item 8e). The cost would be around £1,500.
 - * As noted in Item 8f, UKFN is in discussion with MathsWorldUK about helping to develop a fluids-related demo for a touring exhibition. UKFN could go further than running a design competition for the demo by offering to fund the building of the demo itself. This contribution could be of the order of £5K.
- Other suggestions

■ Would the EC discuss the options for spending the remaining budget.

Item 7: Supplementary funds

The supplementary funds contributed by UK institutions for Years 1 and 2 have currently £7,100 remaining. The relevant institutions have been contacted about Year 3 contributions, and if all of these are forthcoming, an additional £5,000 can be anticipated, making a total of £12,100.

Use of these funds has so far consisted of prizes for competitions run by UKFN.

(i): UKFN photo/video competitions

Cost: £400 per competition (£200 each to the winning photo and video)

For 2019: next competition planned for July 2019; commitment £400

(ii): Student presentation prizes at the next UK Fluids Conference

Cost: £300 (£150 each to the winning oral and poster presentations)

For 2019: no poster competition this year; commitment £150

(iii): Fluids Thesis prize

Cost: £500 to winner plus expenses for winner and 2 runners-up to attend the UK Fluids Conference to present.

This year two runners-up have moved abroad (France and Norway), so the expenses will be non-negligible. The 3 talks have a plenary session at the 2019 UK Fluids Conference.

For 2019: travel and subsistence from central funds; commitment £500

The total commitment from supplementary funds for 2019 is therefore £1,050, leaving around £11K going into 2020.

Would the EC review the above uses of the supplementary funds and, if appropriate, suggest new ones.

Item 8: Engagement with other organisations and activities

a. EPSRC

The main activities related to EPSRC are as follows.

(i) No-cost extension

As noted earlier (Item 4, SIGs), a no-cost extension to 29 February 2020 was granted by EPSRC, allowing additional time both for SIGs to hold meetings and SRVs to be completed.

(ii) New UKFN booklet

MJ and ND have engaged graphic designers (CantellDay) to produce a new booklet on UKFN. It will focus primarily on the SIGs and their impact, but will also feature the SRVs and infographics on the network as a whole, plus a selection of the most eye-catching images submitted in UKFN competitions. Prof Lynn Gladden, EPSRC Executive Chair, and Dr Andrew Lawrence, Head of EPSRC's Engineering Theme, have both kindly agreed to add supporting messages to the Foreword.

The booklet will be distributed at the UK Fluids Conference, and other routes to dissemination will be followed up, including through EPSRC's communications team.

(iii) Council members

EPSRC is looking for new Council members. UKFN would like to identify and encourage suitably-qualified network members to consider applying.

For EC to discuss:

Who could be encouraged to apply?

Are EC members already involved with EPSRC?

Does Leeds CDT have direct involvement with EPSRC?

b. ERCOFTAC

MJ/ND are pursuing details on how to apply to set up a new ERCOFTAC SIG. Proposals must be submitted in time for review at the ERCOFTAC Autumn Festival, which will take place in Magdeburg, Germany on 10-11 October 2019. At least one SIG has already expressed strong interest in applying, and we will encourage others to apply.

c. ERCOFTAC Osborne Reynolds Day

The 2019 Osborne Reynolds Day took place at the University of Manchester on 12 July. As UK Pilot Centre for ERCOFTAC, UKFN is responsible for seeking sponsorship to cover the prize money and winners' plaques. ANSYS and BAE Systems once again generously supported the event. MJ attended the event to give a presentation about ERCOFTAC and present prizes. The winners have been nominated as possible contenders in the 2019 da Vinci competition, held at the Autumn Festival (see above).

d. UK Fluids Conference

UKFN continues to have a significant presence at the UK Fluids Conference. The 2019 conference will take place at the University of Cambridge (27-29 August), and UKFN will run a competition for the best student oral presentation, while the winner and 2 runners-up of the thesis prize will present their work in a dedicated plenary session.

e. JFM/Tom Crawford

Tom Crawford (TC), who is Social Media Editor for the Journal of Fluid Mechanics, continues to produce videos based on interviews of fluids researchers.

- In addition to the 11 3-minute videos published on YouTube¹, he is now editing these into shorter 1-minute videos targeting social media. There are 10 of these so far.
- TC has also interviewed some of the UKFN competition winners, and the first of these videos is available at <https://www.youtube.com/watch?v=chfG229nLZI&t=1s> featuring Dr Luke Muscutt from the University of Southampton on 'How Plesiosaurs Ruled the Ocean using their Flippers'.
- Finally, having attended the AIAA SciTech Forum in San Diego, California (7-11 January 2019), a new series of videos is in preparation.

f. MathsWorldUK (<http://mathsworlduk.com/>)

This is a charity aiming to establish a permanent mathematics museum in the UK. As a precursor and promotional tool they are setting up a travelling exhibition that will feature science and engineering and how mathematics plays a role. As part of this they would like to feature a physical demo on fluid mechanics, and UKFN has offered to help by running a competition to design a demo. This is under discussion with Katie Chicot, CEO of MathsWorldUK.

¹ https://www.youtube.com/playlist?list=PLeMcs_6ekd586uRs34jE8aD8pF26nPvPi

Item 14: Future activities of UKFN & role of Leeds CDT/LIFD – Activities, responsibilities and funding

Previous EC meetings have discussed which activities UKFN should focus effort to continue, informed by an earlier survey (see Item 9a of agenda for EC meeting on 1/5/18, <http://tinyurl.com/ec-agenda-010518>). These are as follows.

a. Newsletter

Our survey showed this is the most popular aspect of UKFN. It is now circulated weekly, and consists of two parts:

- messages from UKFN, e.g. competition announcements and other items of general interest
- messages contributed by email from network members, principally meetings/conferences and jobs, including PhD studentships. There are typically no more than 10 emails per week, which need to be reformatted.

The level of effort required to maintain the newsletter is therefore low.

Would the meeting discuss how this can continue in the longer term.

b. Website

There are two main aspects here: content and maintenance

- Content
 - * The **Home** page requires updating with tweets, network news and event information. This could be jointly undertaken.
 - * The **Talks** and **Resources** pages would be updated as required by **Cambridge**.
 - * The **SIG** pages are currently updated by the **SIG leaders**, and they would be encouraged to continue.
- Maintenance
 - * There would be ongoing maintenance of the website, e.g. minor changes to functionality, which would be run by **Cambridge** (possibly with the help of PhD students). There is also the issue of payment for hosting the website, for which external support could be pursued by **Cambridge**.

c. SIGs

Overall, SIGs will be encouraged to seek their **own funding**, e.g. through research proposals written by SIG members – include an element that supports involvement of the SIG, e.g. as a clear Pathway to Impact – or through sponsorship from industrial members.

If external funding is not available, then a **pay-as-you-go** (PAYG) model is preferable to a subscription model, mainly by virtue of the much lighter touch of the PAYG option avoiding the substantial administrative overhead of subscriptions.

For all SIGs, especially those without a separate source of funding, it will be important to facilitate the setting-up of meetings. With the PAYG model in mind, the payment required from each delegate would be small: for academic-led meetings, venue hire is likely to be low-cost or free, so if delegates pay for their own travel and accommodation then there only needs to be a small fee charged to each person to cover food and refreshments.

UKFN plans to set up a number of **hubs** where meetings can take place, and who would be responsible for the administration of meeting set-up. Cambridge is keen to be one such

location, and agreement to participate by other universities will be followed up, e.g. Leeds, London, Manchester.

In Cambridge, setting up an online sales webpage for a new meeting is easy, and the service is run by a dedicated team. Other hub institutions will hopefully have similar facilities, but as a fallback option a generic service such as Eventbrite could be used, although they charge a fee (typically 6-10%) and the money from delegates can take a few weeks after the meeting to arrive. A document outlining the procedure in Cambridge is in preparation.

d. Competitions

These will continue, as per Item 7, while **supplementary funds** allow, run through **Cambridge**.

- Photo/video competition – reduce frequency to every 6 months
- UK Fluids Conference – best student oral/poster presentations
- Fluids thesis prize – subject to review

e. Outreach

New promotional videos by Tom Crawford/JFM, as per Item 8, will continue to be produced as far as possible, again subject to **supplementary funds** and run through **Cambridge**. The main cost here is travel and subsistence for TC.

■ What are Leeds CDT/LIFD doing in terms of outreach?

f. Other

■ Are there any activities performed by either Leeds CDT/LIFD or UKAN that UKFN could usefully consider for the future?