

UK Fluids Network: Justification for Resources

Facilitator, Dr Nick Daish £143,401 staff costs + £11,640 travel

We request resources for a full-time facilitator, Dr Nick Daish, for three years at salary point 47. The facilitator will (i) take overall control of the website, specifying its requirements and supervising its construction; (ii) take overall control of YouTube channel, Facebook site, Twitter feed; (iii) monitor the discussion board, solicit input, prompt researchers to reply to posts; (iv) monitor usage and obtain feedback on the website; (v) arrange for fluids seminars to be streamed to the web (vi) build up and maintain a comprehensive directory of UK fluid mechanics researchers and users; (vii) coordinate news items from the UKFN; (viii) migrate researcher resources to the UKFN website; (ix) identify new required resources and researchers who can create them; (x) obtain feedback on researcher resources from users; (xi) adapt researcher resources in line with feedback; (xii) identify fluid mechanics videos to link to from UKFN website; (xiii) identify a researcher who can write a paragraph for each video and encourage them to do this; (xiv) with the PI and Co-Is, secure funding to make updated fluid mechanics films; (xv) identify researchers who are prepared to write articles for the public and help them to do so; (xvi) publicise the achievements of researchers in the UKFN.

In addition, the facilitator will (i) liaise with around 60 institution/CDT and industrial points of contact; (ii) liaise with around 40 SIG leaders about administration of meetings, recording outputs of meetings (e.g. grand challenges, capital requirements, potential to build into an ERCOFTAC SIGs); (iii) liaise with researchers on research visits and recording outputs (iv) administer payments to venues for SIG meetings; (v) monitor expenditure rates of SIGs and short research visits to ensure a healthy profile over the life of the project; (vi) coordinate sharing of best practice across SIGs; (vii) assess demand for continuous professional development from industry.

The facilitator must have the following skills/characteristics: (i) a PhD in Fluid Mechanics or similar discipline in order to be able to build up and maintain the website, in particular to assess, compile and present the researcher resources effectively; (ii) excellent inter-personal and organisational skills. We are fortunate that a PDRA with these skills is available and willing to work on the project if it is funded. Managing interactions with around 40 SIGs and 60 institutions /companies will require a full-time presence in order to respond to questions in a timely manner thereby reducing the PI and Co-I time requirements.

The facilitator will travel to some SIG meetings. We request resources for the facilitator to travel to meetings within the UK for an average of 2 meetings per month, 75% of which will require an overnight stay.

Admin support (£10,754)

We request 10% pool office support / secretarial, grade 5 in order to handle administrative aspects of running the network, freeing up the facilitator to deal with the main activities of the network.

PI and Co-I time (PI = £35,158; Co-Is = £26,717 + £20,186 + £21,140 + £24,800 + £25,508)

We request resources for the PI at 16% (6 hours per week on average). The PI will: (i) be responsible for overall delivery of the network liaising with the executive committee, advisory board, institution/industry points of contact, and the SIG leaders, in conjunction with the facilitator (2 hours per week); (ii) have weekly meetings with the facilitator to review progress of the network (1.5 hours per week); (iii) have quarterly teleconferences and annual meetings with the executive team (8 hours per quarter and 48 hours per year for annual meetings including preparation time); (iv) have annual meetings with the advisory board (48 hours per year, including preparation time). The total is an average of $(52 \times 2 + 1.5 \times 52 + 8 \times 4 + 48 + 48) / 52 = 6.0$ hours 16% of PI time. The commitment will be greatest near the start of the project, while the first tranche of SIGs are starting.

We request resources for five Co-Is at 8% (3 hours per week on average). The Co-Is will: (i) be responsible for delivery of specific activities in the network (1.8 hours per week); (ii) have quarterly teleconferences and annual meetings with the executive team (4 hours per quarter and 24 hours per year including preparation time); (iii) have annual meetings with the advisory board (24 hours per year including preparation time). The total is an average of $(1.8 \times 52 + 4 \times 4 + 24 + 24) / 52 = 3$ hours 8% per week. This is a large network proposal involving 40 institutions across the

UK, involving the 3 Fluid Dynamics & Aerodynamics CDTs as well as other institutions. We have chosen a total of 5 Co-Is because there are 5 main activities of the network and therefore each Co-I can have responsibility for one activity.

Travel and subsistence for executive committee meetings (3 meetings at £ 1000 each)

The Executive committee will meet once per year in person and quarterly by teleconference. The executive committee needs to meet in person once per year, based on experience with the Burgerscentrum, to discuss overall delivery of the project. Significant work will be required at the start of the project to select the SIGs. The expenditure accounts for 4 non-local committee members, with 3 requiring overnight stays.

Advisory board meetings (3 meetings at £ 1,200 per meeting)

The advisory board must meet in person once per year in order to be able to give meaningful feedback on the network activities and in order for the network to react to that feedback. The board will meet from lunchtime on day 1 to lunchtime on day 2. There will be 5 people on the board, with 5 requiring overnight stays. The network will pay all travel, subsistence, and accommodation costs of the advisory board members, with the exception of Ann Karagozian, who will join via Webex from the USA.

Special Interest Groups (£ 480,000 total)

We have based the budget on 40 SIGs, each meeting 6 times during the network, with the network contributing £ 2000 per meeting. This figure is based on meetings that last for 24 hours, starting at lunchtime on day 1 and ending at lunchtime on day 2, with the network paying for the venue, two buffet lunches, and accommodation for 10 non-local researchers. Attendees would pay for their own travel and evening meals. We realise, however, that SIGs will vary and that this model will need to be flexible. For example, some larger SIGs may require attendees to pay for their own accommodation or may wish to fund a plenary speaker from overseas. The general administrative guidelines will be that the network receive a single bill from the venue in order to minimize administration and that costs and contributions will be agreed before meetings.

SIG meetings need to take place face to face in order to allow both formal and informal interactions. By committing to paying for the venue, the network allows the organiser to book a venue without incurring a fixed cost risk. This allows the organiser to focus on the technical content and attendance of the SIG.

Short research visits (£ 45,000 total)

We request resources for 15 short research visits per year at an average of £ 1000 per visit. This average figure is based on the network paying travel, subsistence, and accommodation for 5 nights for 1 person. The aim of the short visits is to remove all financial barriers to research collaborations, which justifies paying all expenses of the visitors.

Website (£ 47,000 for website and institutional Webex)

The main cost associated with the website is assembling the content, which is budgeted in the facilitator's time. The remaining cost is for website delivery (i.e. design, construction, development, and maintenance) and a subscription to Cambridge's institutional Webex (£10 per month) to host webinars. The network contains several institutions, so it is not appropriate to use a single institution's house style. The cost above is for an external web developer, who will set up the initial website, and show the facilitator how to maintain and expand it. Further web development will be required during the project.

Indirect contributions

The time commitments in the letters of support and consequent payments in kind are approximate at this stage because they will depend on the researchers within SIGs. We have not estimated a monetary value for the three institutions leading CDTs (Leeds, ICL, Cambridge), because, although they will make the largest contribution, this contribution is particularly difficult to estimate.