

Call for Feasibility Studies

EPSRC Future Composites Manufacturing Hub

Closing date: 16th June 2017

Summary

The EPSRC Future Composites Manufacturing Hub is offering funding for feasibility studies to conduct research at **TRL 1 to 3**, to aid a fundamental step-change in composites manufacturing technology within the UK. The feasibility study should examine a subject area that is ambitious and high risk, identifying key challenges and research questions not currently being addressed. This can include the development of new manufacturing technologies, analytical studies to develop a fundamental understanding of state-of-the-art processes, or the development of process modelling and optimisation techniques.

This call is open to all UK academics and is the primary mechanism for new academic collaborators to engage with the Hub. Successful applicants are expected to attract significant new industrial support for follow-on funding, which will form a strategic part of future Hub activities. Access to further Hub funding may be released if feasibility is demonstrated, with the potential for the lead institution to become a Spoke member. Awards at this stage are limited to £50,000 at 80% FEC, for up to a maximum of 6 months.

Key dates

Activity	Date
Call launched	4 th May 2017
Closing date for applications	16 th June 2017
Evaluation of applications by	7 th July 2017
Grants announced and feedback given by	14 th July 2017
Expected start date of projects (or within 6 months)	1 st Sept 2017

Background

The Future Composites Manufacturing Hub is a £10.3m investment by the EPSRC to engage academics from across the UK to deliver a step change in the production of polymer matrix composites. The Hub is led by the University of Nottingham and the University of Bristol and initially includes 4 other Spokes; Cranfield University, Imperial College London, the University of Manchester, and the University of Southampton.

<http://gow.epsrc.ac.uk/NGBOViewGrant.aspx?GrantRef=EP/P006701/1>

The vision for the Composites Hub is to enable Moore's law for composites - a doubling in production capability every two years for high performance polymer composites. The Hub is supported by 4 High Value Manufacturing Catapult Centres and backed by 18 leading companies from the composites sector,

offering a further £12.7m in additional support to address the following Grand Challenges:

- Enhance process robustness via understanding of process science to deliver and accelerate growth
- Develop high rate processing technologies for high quality structures to develop new technologies and diversify into emerging sectors

In order to meet these challenges and grow the national effort to support future UK composites manufacturing, the Hub has allocated funding for 8 feasibility studies in this round to further develop the portfolio. Successful applicants will be encouraged to secure follow-on funding after feasibility has been demonstrated, with the possibility of gaining Spoke status within the Hub.

The Hub was launched in January 2017 with three initial core projects;

- New manufacturing techniques for optimised fibre architectures
- Manufacturing for structural applications of multifunctional composites
- Technologies framework for Automated Dry Fibre Placement (ADFP)

and two feasibility studies;

- In-situ processed thermoplastic carbon fibre composites and metallic frameworks
- Strain-based NDE for online inspection and prognostics of structures with manufacturing defects

Details of current activities can be found at:

www.cimcomp.ac.uk/

Scope of the Call

Research must be novel and fundamental, addressing low TRL (1-3) problems. Applicants are invited to submit proposals that are complementary, but distinct, from the 3 current core projects and two feasibility studies outlined above. The proposal should also fit within the overall vision of the Hub and support one of the following research priority areas:

1. High rate deposition and rapid processing technologies
2. Design for manufacture via validated simulation
3. Manufacturing for multifunctional composites and integrated structures
4. Inspection and in-process evaluation
5. Recycling and re-use

Funding available

Funding is available for up to 8 feasibility studies. Awards will be limited to £50,000 at 80% FEC for up to 6 months. Funding is intended to cover the costs of the PI and supporting researchers in undertaking research in preparation for a full grant proposal. Funding will therefore primarily cover staff time, with the remainder supporting consumables and travel. Funding for PhD students is not available and this cost should be covered by the institution.

Equipment

Funding for purchasing new equipment is not permitted, but access will be available to existing equipment at Hub and Spoke institutions, which will be charged at cost.

Eligibility

This call is open to all UK academic institutions (including existing Hub and Spoke institutions), where applicants must be eligible to hold an EPSRC grant.

How to apply

Feasibility study applications should be submitted to Dr Lee Harper, Hub Manager (lee.harper@nottingham.ac.uk). Applications should be no more than four sides of A4, using 2cm margins and a standard 12pt font. Proposals should include, but not be limited to, the following content:

1. Research title, institution name and Principal Investigator (PI)– note that PI must be eligible to hold an EPSRC grant
<https://www.epsrc.ac.uk/funding/howtoapply/fundingguide/eligibility/investigators/>
2. Start date and duration. (Projects should typically last for a maximum of 6 months)
3. Context, aim and objectives of the research, including a description to explain how the study fits within the overall vision of the Hub and how it supports one of the research priority areas.
4. A statement of the novelty of the proposed research, including some evidence that it is not being addressed elsewhere.
5. A description of the methodology to be used, including a timing and resource allocation plan.
6. A description of the tangible deliverables from the feasibility study (what does success look like?)
7. A plan to show how you will attract further funding if your idea is feasible and the research is successful.
8. Provide some evidence of industrial interest or support.
9. A brief track record of the applicants relevant to this research area.
10. Justification of resources, summarising Directly Allocated (staff, estates costs, other), Directly Incurred (investigators, travel, consumables, infrastructure etc.), and Indirect Costs. A limit of 3.75hrs/week is imposed for investigators.

Assessment process

Submissions will be considered by independent assessors. In order of importance, the evaluation criteria for applications will be:

1. Does the proposal address a fundamental step-change in composites manufacturing technology, which can be aligned to the strategic research priorities of the Hub?
2. Does the proposal offer suitable levels of challenge, ambition and risk?

3. Is there potential for developing a larger collaborative project, either at a similar fundamental level or at higher TRLs?
4. Is the proposal relevant to the interests of the industrial partners and the other stakeholders?
5. Do the proposed outcomes from the research have the potential to attract new industrial members to the Hub and leverage further industrial support?

Contacts

For more details, please contact the Hub Manager, Dr Lee Harper (lee.harper@nottingham.ac.uk or 0115 9513823). Applicants are asked to consult their university's research office ahead of submitting a proposal to this call, in order to be clear of the requirements for meeting the deadlines set out above.