

# Calling all Young Composite Engineers

In conjunction with the Society for the Advancement of Material and Process Engineering, the EPSRC Future Composites Manufacturing Research Hub would like to invite you to participate in a **“Design and Make” competition** to manufacture a **composite bridge**. This is an opportunity to put your composites experience into action and represent your university in this national event.

Teams will have to use their knowledge and creativity to design a suitable simply-supported structure to carry a 1kg load at the mid-span. This competition is intended to give young engineers hands-on composites experience in design and manufacturing. The objective is to produce the longest structure to support the defined load.

**The contest will take place on the 19<sup>th</sup> October 2021** and a prize will be awarded to the team with the longest functioning design.

SAMPE UK and Ireland is a networking organisation of 150+ professionals and students in advanced materials, which is very active in composites. An objective of SAMPE is to foster technical excellence in the UK, by promoting interest in new materials and processes within the composites community. SAMPE wishes to support this event to create a dialogue and network with tomorrow’s engineers. **Free annual membership of SAMPE UK and Ireland** will be offered to all participants who attend the contest in person. Further information about the UK and Ireland Chapter can be found at <https://www.sampe.org.uk/>

## Rules

- The bridge must be a standalone, simply supported structure.
- The bridge must support a mass of 1kg at the mid-span (1 bag of sugar, 200 x 100 x 70mm each)
- The mass of the structure must be less than 250g
- There is no minimum specification for the width of the bridge, providing the load can be held in position unaided
- The bridge must be manufactured from the materials provided:
  - 15mm wide, 80gsm spread tow carbon ribbon (50 linear metres)
  - 1kg epoxy laminating resin
  - 625 X 625mm Rohacell 31 IG-F PMI foam core, 3mm thick
- Mechanical fasteners must not be used. Joints should be created by co-curing
- The longest span to carry the central load wins
- In the event of a tie-break, the central load will be increased
- No more than 4 members per team

- Only one entry per team. However, universities/companies are welcome to enter multiple teams if they wish
- At least one team member must be present during the Hub Open Day on 19<sup>th</sup> October 2021

## Participants

Teams may contain undergraduate, postgraduate/postdoctoral researchers and early career engineers, but must contain no more than 4 members. Entries are welcome from all universities and companies in the UK and Ireland.

## Registration

Send an e-mail to [Joanne Eaves](mailto:Joanne.Eaves@man.ac.uk) by Friday 10<sup>th</sup> September 2021 to register your team for the competition. Entries beyond this date will not be accepted, as sufficient time is required to organise the material kits.

Please provide the following information:

- Team name
- Team members
- Team point of contact e-mail
- Affiliation
- Mailing address to receive a material kit

Judging will take place during the Hub's annual Open Day on 19<sup>th</sup> October 2021, which will be held virtually. Participants will be expected to demonstrate that the central load can be supported whilst live on camera during the lunch-time session. A laptop with a web camera is therefore required to take part.

The Hub's free-to-attend Open Day will celebrate the midpoint of the Hub, providing an opportunity for Hub researchers to highlight and showcase project outputs. This will be a great opportunity for those across the composites sector to learn more about the latest research and developments in composites manufacturing. All team members are welcome to attend this event. [Please register here.](#)

## Contact

Questions regarding the competition or the Open Day should be sent to [Lee Harper](#).