

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 **scaled composite tower**. This is an opportunity to put your composites experience into action and represent your university in this national event.

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 use this event to create a dialogue and network with tomorrow’s engineers.

Teams will have to use their knowledge and creativity to design a suitable structure to support a 1kg load at its peak. This competition is designed to give young engineers hands-on composites experience, including design for manufacture, material selection and manufacturing. Teams will have to gamble on how tall to make the structure to beat the competition, whilst ensuring it can support a predefined load. As they say, “Go Big or Go Home!”

The contest will take place on the 12th September 2019 and a prize will be awarded to the team with the tallest functioning design.

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/>

Objective

Design and build a composite tower using either glass or carbon fibres, to support a 1kg mass.

Rules

- The tower must be a standalone, self-supported structure
- The tower must support a mass of 1kg at its highest point (dimensions of mass: 100 x 100 x 50 mm)
- The mass of the structure must be less than 250g

- The tower must contain only glass fibre or carbon fibre and a suitable matrix material
- Mechanical fasteners must not be used. Joints should be created by adhesive bonding or co-curing
- The tallest structure wins
- The tower can be constructed from multiple sections and time will be available at the contest for assembly, if required
- In the event of a tie-break, the mass will be increased to failure
- No more than 4 members per team
- Only one entry per team, however, universities are welcome to enter multiple teams if they wish
- At least one team member must be present during the contest on 12th September 2019

Participants

Teams may contain undergraduate, postgraduate or 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 SAMPEcompetition@cimcomp.ac.uk by Wednesday 31st July 2019 to register your team. Please provide the following information:

- Team name
- Team members
- Team point of contact e-mail
- Affiliation

Judging will take place during the Hub's annual open day at the University of Nottingham. This free-to-attend event will celebrate the second complete year 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 at

<https://www.eventbrite.co.uk/e/hub-open-day-2019-registration-59227439867>

Contact

Questions regarding the competition or the open day should be sent to SAMPEcompetition@cimcomp.ac.uk