

Workshop on Mechanical and Acoustic properties of Syntactic Foams

October 10-11th 2019

Crowne Plaza Hotel, University of Manchester

Plenary speakers

Nikhil Gupta (NYU Tandon School of Engineering)

Oscar Lopez-Pamies (University of Illinois Urbana Champaign)



Programme: Thursday 10th October

09.00-09.50

Coffee

09.50-10.00

Welcome

10.00-10.50

Nikhil Gupta (Plenary)

“Next frontiers in syntactic foams: materials design by machine learning and manufacturing by additive manufacturing”

10.50-11.40

Coffee

11.40-12.00

Peifeng Li

“3D failure mechanisms in epoxy syntactic foams”

12.00-12.20

Gareth Wyn Jones

“On the buckling of an elastic shell inside an elastomeric matrix”

12.20-12.40

Riccardo De Pascalis

“On the nonlinear mechanical response of syntactic foams”

12.40-14.00

Lunch

14.00-14.20

Lorenzo Bardella

“Failure of glass-microballoons/thermoset-matrix syntactic foams subject to hydrostatic loading”

14.20-14.40

Mrityunjay Doddamani

“Mechanical properties of 3D printed syntactic foams”

14.40-15.40

Coffee

15.40-16.00

Dimitrios Chronopoulos

“Design optimisation of poroelastic structures for acoustic insulation”

16.00-16.20

Nishal Ramadas

“Application of syntactic foam materials in air coupled ultrasonics transducers: from first principles to state of the art”

19.00-

Evening meal



Programme: Friday 11th October

09.00-10.00

Coffee

10.00-10.50

Oscar Lopez-Pamies (Plenary) *"A general homogenization solution for the non-linear elastic response of isotropic porous elastomers"*

10.50-11.40

Coffee

11.40-12.00

Angela Mihai

"Likely instabilities in stochastic elastic solids"

12.00-12.20

Zeshan Yousaf
& Michael Smith

"Phenomenological models for all-polymer syntactic foams and their cyclic response"

12.20-12.40

Nick Bazin

"An overview of syntactic foams at AWE"

12.40-14.00

Lunch

14.00-14.20

Shelley Rawson

"CT Imaging Deformation in Aerogels, Foams and Non-Stochastic Lattices"

14.20-14.40

Matthew Curd

"Syntactic foam characterisation via X-ray and Focussed Ion Beam Tomography"

14.40-15.00

Zhongwei Guan

"Dynamic response of PVC foam core sandwich plates subjected to projectile impact"

15.00-15.30

Close and Special Issue Discussion