

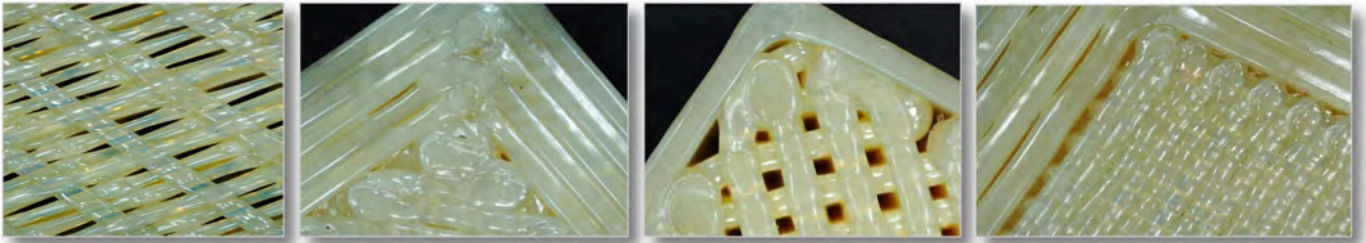


PERSONA CIENCIA EMPRESA
UNIVERSITAT RAMON LLULL
SCHOOL OF ENGINEERING

DYNAMICS AND VIBRATION LABORATORY
GROUP OF INDUSTRIAL ENGINEERING PRODUCTS (GEPI)
DEPARTMENT OF INDUSTRIAL ENGINEERING

MECHANICAL PERFORMANCE OF ADVANCED FUSED DEPOSITION MODELING PARTS IN TERMS OF ITS MANUFACTURING DESIGN PARAMETERS

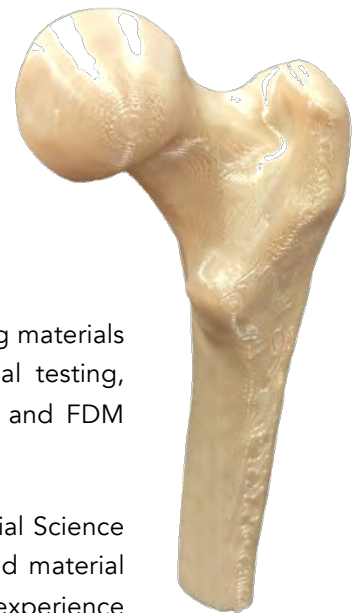
The significant developments of additive manufacturing technologies have given way to a new vision about the designing structures. Fused Deposition Modeling (FDM) is one of the most important additive manufacturing technologies nowadays. The selection of the optimal building factors for FDM requires a multiparametric strategy. Therefore, there is a need to get more insight in the relationship between the process parameters and the final mechanical performance.



The objective of this project is to investigate on the influence of process parameters (visible surface style, number of contours, contour width, layer orientation and stacking sequence, part interior style and raster-to-raster air gap) on the mechanical behaviour under static and dynamic loading at specified conditions. The fact of having such knowledge would make it possible to determine specific fabrication parameters for specific advanced applications. It involves an experimental research and numerical simulations.

The Dynamic and Vibration Laboratory have a state-of-the-art equipment for testing materials over a wide range of loading conditions. It includes complete setup for Modal testing, multisensory Data acquisition systems, 3D Digital Image Correlation equipment and FDM professional printer.

We are looking for a highly-motivated student of Mechanical, Aerospace or Material Science Engineering, or related science, for laboratory work in additive manufacturing and material characterization. Effective communication skills are required and materials testing experience is preferred, but not required. Depending on the time commitment, authorship opportunities may be available for subsequent publications (e.g., posters, conferences, journal papers).



Positions offered (2017-2018): 1 Master research project (6-9 month)

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