



Position Title	PhD Studentship – 3D Printing – Understanding microstructural effects due to changes in process parameters
Project Abstract	<p>The ultimate goal for material properties created in a 3D printer would be to meet required material specifications directly out of the 3D printer. Unfortunately, currently further post processing and thermal treatments are often required. The intent of this project is to understand the possibilities of changing process parameters in the printing cycle to achieve desired microstructural effects and as a result material properties.</p> <p>For example: what process parameters can be dialled in to eliminate porosity, increase ductility, improve fatigue strength, improve lattice structure properties or surface finish etc. The intent is to really understand the impact of all process parameters and how they could be dialled in to improve design and quality of component.</p> <p>Potential Impact of Success: Elimination of thermal treatments would reduce COGS and Lead Time; Control of material properties would open up opportunities for design freedom; Understanding of material properties will facilitate problem solving.</p>
Experience	The PhD position is funded for 4 years, including a monthly stipend and materials and travel budget. Applicants should hold a minimum of an honours bachelor's degree at 2:1 level or equivalent in a relevant subject such as Chemistry/Physics/Materials. Candidates should also have a strong interest in Microscopy/Additive Manufacturing.
Funding	The studentship will cover fees up to €5,500 pa and a stipend of €18,500 pa
Location	TCD
Closing Date	Friday 29 th June 2018
For more information contact	Prof. Mick Morris, morrism2@tcd.ie ; +353 (0)1 896 3089

AMBER,
CRANN Institute,
Trinity College Dublin,
Dublin 2, Ireland

T + 353 (0) 1 8963030
W ambercentre.ie
twitter @ambercentre

