



Position Title	PhD Studentship – Development of next generation transcatheter heart valves with long-term durability and reduced risk of calcification
Project Abstract	<p>Currently, the main method of replacing diseased heart valves is open heart surgery using mechanical or bioprosthetic heart valves (BHVs). With an aging population, however, BHVs will be increasingly adopted, as unlike traditional mechanical valves BHVs are suitable for key-hole surgery.</p> <p>The main aim of this project is to identify viable materials to increase the long-term durability of transcatheter valves. This will be achieved by testing BP tissue which has been fixed using the traditional glutaraldehyde protocol and comparing it to suitable alternatives including (i) BP fixed using a novel photo crosslinking technique and (ii) a decellularized biological scaffold (porcine intestinal submucosa) fixed using the novel crosslinking technique. This project will explore the biomechanics of the tissue via uniaxial and biaxial tests along with longer term cyclic tests to ascertain damage accumulation in the tissues.</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 Bioengineering/Biomedical Science. Candidates should also have a strong interest in biomaterials and tissue engineering.
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. C Lally; lallyca@tcd.ie; +353 1 896 3159

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

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

