



Position Title	PhD Studentship - Development of an Implantable Bioengineered Tracheal Scaffold for Respiratory Tissue Regeneration
Project Abstract	<p>The central research question of this project is whether it is possible to manufacture a tracheal medical device containing a composite of natural and synthetic biomaterials that can both enhance healing and restoration of the native biological tissue, in addition to exhibiting the mechanical strength necessary to maintain a patent airway.</p> <p>Today, there is still an unmet clinical need for treatment of long-segment tracheal damage. The trachea is essential to facilitate the transit of air to the distal regions of the lungs for oxygen and carbon dioxide exchange. Tracheal damage due to cancer, stenosis, infection, or congenital abnormalities can have devastating consequences.</p> <p>Accordingly, the major objective of this project is to design a novel composite scaffold with suitable biocompatible and mechanical properties for tracheal tissue regeneration. Our central hypothesis is that the incorporation of a synthetic polymer fabricated with 3D printing technology can be used to create an engineered implant that combines the advantages of the CHyA-B scaffold with the robust strength of a biocompatible, synthetic polymer, providing an implantable device that will maximize tracheal tissue regeneration by the promotion of epithelialisation, airway patency, and vascularisation.</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 Bio-Engineering/Pharmacy. Candidates should also have a strong interest in 3-D Printing/Regenerative Medicine.
Funding	The studentship will cover fees up to €5,500 pa and a stipend of €18,500 pa
Location	RCSI
Closing Date	Friday 29 th June 2018
For more information contact	Dr. Cian O'Leary, cianoleary@rcsi.com ; Tel: +353 1 402 8521

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

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

