

**INSTITUTE:**

Athlone Institute of Technology

**RESEARCH AREA:**

Bone Regeneration

## Dr. Declan Devine: Deriving tissue engineered constructs for treatment of large bone defects

Excellent Researchers  
Delivering Impact

Materials Science

**ICTI**

Institutes of Technology Ireland

Dr. Declan Devine is a graduate of Polymer Engineering. Following completion of his PhD studies at Athlone Institute of Technology (AIT), he gained international research experience at the AO Research Institute in Switzerland and during his current Marie Curie Research fellowship at Harvard University's Center for Advanced Orthopaedic Studies.

Drawing on these experiences and on his knowledge of the limitations of existing treatments, Dr. Devine's research interests centre around deriving clinically relevant tissue engineered constructs for treatment of large bone defects. Current projects under Dr. Devine's supervision at AIT's Materials Research Institute (MRI) focus on development of novel composite materials for bone defects resulting from severe traumatic injury, infection, cancer resection and bone loss due to degenerative diseases.

Dr. Devine is a successful product of the 'ladder system' in the Institutes of Technology as he completed both Certificate (level 6) and Diploma training (level 7) in Plastics Engineering before graduating with a first class honours degree (level 8) in Polymer Engineering. Following his academic success, Dr. Devine remained at AIT on a HEA Strand I funded research project in the field of biomaterials under the direction of Prof. Clem Higginbotham, from which he went on to achieve a PhD in Biomedical Engineering.

After gaining postdoctoral experience, Dr. Devine relocated to Switzerland to take a senior research



*Dr. Declan Devine, Beth Israel Deaconess Medical centre, Harvard Medical School and Materials Research Institute, AIT*

position at the AO Research Institute, Davos. In this post he gained extensive exposure to clinical driven research in the field of orthopaedics. Dr. Devine then returned to AIT where, with Dr. Luke Geever and Prof. Higginbotham, he developed an orthopaedic research group. →

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→ To ensure clinical applicability in his work around the treatment of bone defects, Dr. Devine maintains a close partnership with Mr. Eoin Sheehan, Consultant Orthopaedic Surgeon at Tullamore Hospital. With his experience of developing and validating both novel and current treatment modalities, Dr. Devine subsequently secured a prestigious Marie Curie Research Fellowship with AIT and the Beth Israel Deaconess Medical Centre; a teaching hospital of Harvard University.

Dr. Devine's research ethos through his experience at AIT and abroad is that for research to be truly successful, it must be clinically guided. Consequently, Dr. Devine's research is highly translational and has met with both national and international recognition. Indeed he was listed as one of the Ireland's Champions of EU research at a function in Dublin celebrating the achievements of Irish researchers. ■

## TESTIMONIAL

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### **Dr. Declan Devine**

*Athlone Institute  
of Technology.*

*"My experience of studying at AIT was so positive that I stayed on for my first postdoctoral research position there. The atmosphere, support and motivation to produce world class research were just some of the qualities that made me return to AIT after several years abroad in other world leading orthopaedic research institutes. Research is based on pursuing good ideas but these can only be enacted with the help of a great research network and research support – AIT has both in abundance. I personally have worked at the AO Research Institute and at the Harvard Medical School, both established world class centres in the research of orthopaedic problems, and I can honestly say that I rank AIT in a similar class."*

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