



Western

Biomedical Imaging
Research Centre

SEMINAR
SERIES
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Wednesday, October 18th 2017 4:00—5:00 pm
(Pizza served at 3:45pm)

Matt Parkes, MEng

Senior Medical Development Engineer, Renishaw, UK
Technical Manager with the Additive Design in Surgical
Solutions (ADEISS), London, ON

Title: Additive Manufacturing (3D Printing) in the Medical
Devices Industry: A streamlined approach from medical
imaging to implantation



**Fisher Conference
Room
Main Floor
Robarts Research
Institute**

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Abstract

Additive Manufacturing (AM), commonly termed 3D printing, is positioned to change the face of the medical device industry in Canada. The unique capabilities offered by 3D printing modify routine device manufacturing practices- moving away from 'design-for-manufacturing' to a 'manufacturing-for-design' model. With conventional manufacturing techniques, incorporating internal structures, mass producing patient specific geometries, and rapid design iteration is not possible. However, with the introduction of 3D printing, the cost of intricate, custom design features is significantly reduced through a streamlined workflow. ADEISS is a unique AM medical device solution centre in Ontario—with two metal 3D printers dedicated to medical grade alloys, technical expertise in AM, and a quality system in place for controlled manufacture and distribution of devices. The advantages of the AM process rely on a robust device design input; obtaining the prerequisite high quality medical imaging (CT, MRI, etc.) and software design tools is an ongoing challenge. This presentation will introduce metal AM as it relates to medical device manufacturing, as well as discuss the need for medical imaging expertise for the success of personalized devices in the medical industry.

Biography

Matt is a Senior Medical Development Engineer for UK-based technology firm Renishaw and the Technical Manager with the Additive Design in Surgical Solutions (ADEISS), London, ON. He has a Masters degree in Engineering Design from the University of Bristol and previously worked in the requirements analysis and electronic architecture teams of global engineering consultancy Atkins. Having joined Renishaw's healthcare team 5 years ago, Matt helped develop the group's range of Additive Manufactured medical devices, utilizing the benefits of AM for patient-specific prostheses to aid trauma and cancer patients. In this time, he has delivered AM medical solutions as part of government funded projects, working closely with academics, and commercial



initiatives of multinational Medtech companies. Matt was asked to join the Renishaw Canada team in 2016, to lead the launch and implementation of the ADEISS facility at Discovery Park, Western University.



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