John Patrick O'Connor PhD.

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I am a mechanical engineer with several years experience in product development, manufacturing and mechanical design. I have a wide knowledge of system and component development for several types of systems from electronics to medical devices. I am looking for opportunities in academia in the medical device field or research opportunities in that area.

Professional Experience

2018–2020 Johnson & Johnson 3D Printing, Cork Ireland, Senior Engineer 3D–Printing

- Senior engineer responsible for development of 3D-printed Titanium orthopaedic implants. Acting technical lead for several successful projects. Provided modelling, measurement & manufacturing expertise to the team and wider 3D-printing group in Johnson & Johnson. Provide sample and preparation material for surgeon labs. Managed industry partner projects for EU funded project – ENCOMPASS. Developed several patents in medical device field for 3D-printed orthopaedic implants.

2017–2018 Elvesys SAS, Paris France, Research Associate

- Research associate responsible for managing EU project–BIOCUDET. Developed thermofludic system for rapid real time PCR machine ($\leq$ 10min) which lead to the creation of the start-up company B4Cure. Managed team of junior engineers and scientists to meet project goals.

2016–2017 Microchip (Formally MicroSemi), Ennis Ireland, Research & Development Engineer

- Lead product development of new surface mount transient voltage suppressor array package. Developed and tested product to military specification MIL-STD 17500. Created finite element model of semiconductor packaging to MIL STD 17500 and JEDEC standards.

Education

2012–2017 University of Limerick Ireland – PhD. in Mechanical Engineering
2007–2011 University of Limerick Ireland – B.Eng in Mechanical Engineering

- Doctoral Thesis: Thermal Hydraulic characterisation of obstacles in microchannel flow: The influence of confinement
- Undertook teaching assistant roles for several engineering courses
- Completed 3–month internship with industry partner sponsoring doctoral studies

Core Skills & Competencies

- Programming
- Finite Element Modelling
- 3D-Printing
- Optical Measurement Techniques
- CAD modelling
- Manufacturing Techniques
- Experimental Design
- Microscopy

Research Interests

- Transport Phenomena
- Energy Storage
- Additive Manufacturing
- Microfluidics
- Organ-on-a-chip
- Medical Device

Key Publications

- A dimensional comparison between embedded 3D-printed and silicon microchannels. Journal of Physics: Conference Series 525 012009
- A comparison between the hydrodynamic characteristics of 3D-printed polymer and etched silicon microchannels. Microfluidics and Nanofluidics 19(2), 385-394