Tong Chen Product Engineer

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Microfluidic/Mechanical engineer with experience in IVD diagnostics. Experience in industrial NPI, PLM, ERP, ECR/ECN, BOM management.

Qualification/Skills

- Microfluidics for IVD disposables, biosensor R&D.
- Material expertise in glass, silicon, polymer, plastics, and glass/plastic fabrication.
- New product development cycle, FMEA, PLM.
- ERP, ECR/ECO/ECN, BOM management.
- Solidworks, AutoCAD, COMSOL, ANSYS, Microsoft Office.

Professional Experience

2015- present

Product Engineer

AO Smith Canada

- Leading US/Canada/Mexico water heating project.
- R&D for new product development, FMEA, cost reduction, reliability improvement, lead experiment design, SOP design.
- Support product Life Cycle Management, ERP, BOM, ECR/ECN, with SAP PLM.
- Manage engineering model/drawing/labels/Rating plates with SAP ECTR, Solidworks, AutoCad, Codesoft and perform critical parameter management analysis.

2014 – 2014 **Postdoc Research Associate**

University of Waterloo

- R&D microwave PCR thermal cycler on microfluidic chip for µfluidix Inc.
- 3D modeling with Solidworks and numerical simulation for microwave heat transfer for cell culture fluid with ANSYS workbench, HFSS.
- Developed a miniaturized PCR thermal cycler based on PCB and disposable plastic microfluidic chip.

2013- 2014	Postdoctoral Research Associate University of Rennes
	 Developed cost effective multifunction bio-microfluidic chip for cell live imaging with fast temperature control, for DNA stability research and cell life cycle research. Multilayer thermal plastic cartridge concept design and assembly validation, developed innovative bonding technique for thermoplastic with glass. Disposable microfluidic chip prototyping for CherryBiotech.Inc. Leading a microfabrication lab in the institute, experiment design, manufacturing protocol, and methodologies.
2009- 2012	PhD Research Associate University of Toulouse
	 R&D microwave based label free biosensor for IVD of chemicals and non-invasive human lymphoma cell suspension/single cell sensing. Polymer based microfluidic chip for cell sorting and single cell capture. Microfluidic chip design and clean room microMEMS fabrication and characterization. 3D modeling and simulation with Comsol/HFSS.
2008- 2009	Research Assistant University of Toulouse
	 Master co-op for developing super hydrophobic microfluidic chip for biomedical. Clean room microfabrication.
Education	
2009- 2012	University of Toulouse, France, Electronic and Mechanical Engineering,
	Micro and Nano System for Biology, PhD
2007- 2009	University of Toulouse, France, Electronic and mechanical engineering, Micro and Nano System for Biology, M.Eng

Languages

- English
- French
- Chinese