

## CURRENT CDT PROJECTS

2014/15

### **3D micro-liver on a chip**

**EngD student:** Myndert Claasen,

**Supervisors:** Dr Michele Zagnoni, EEE; Prof Helen Grant, BME and Dr Dave Watson, SIPBS

**Clinical/Industrial collaborator:** Professor John Plevris, Hepatology, Edinburgh Royal Infirmary and Edinburgh University

### **Virtual and Augmented Reality for Brain Computer Interfaces**

**EngD student:** Audrey Gillies

**Supervisors:** Dr Mario Giardini, BME AND Dr Heba Lakany, BME

**Clinical/Industrial collaborator:** Prof Gabriele E M Biella, Head of Research, Institute for Bioimaging and Molecular Physiology (IBFM) of the National Research Council (CNR), Italy

### **Lab-on-a-Chip platform for high throughput screening of anti-cancer therapeutics and delivery agents in prostate cancer spheroids**

**EngD student:** Scott Gilmartin

**Supervisors:** Dr Glenn Burley, Pure & Applied Chemistry; Dr Michele Zagnoni, EEE & Dr Craig Jamieson, Pure & Applied Chemistry

**Clinical/Industrial collaborator:** Prof Hing Leung (Beatson Institute for Cancer Research); Alex Sim (AMS Biotechnology Europe Ltd)

### **Improving Cancer Cell Death Using Raman Spectroscopy and Microfluidic Droplet Technology**

**EngD student:** Jacob Melnyk

**Supervisors:** Prof Duncan Graham, Pure & Applied Chemistry and Dr Michele Zagnoni, EEE

**Clinical/Industrial collaborator:** Prof Shinya Kimura, Saga University Japan and Renishaw Diagnostics UK

### **The Intelligent colorectal anastomotic pouch**

**EngD student:** Joshua Paulinus

**Supervisors:** Prof P Connolly, BME and Mrs Susan Moug, Royal Alexandra Hospital, Paisley

**Clinical/Industrial collaborator:** Susan Moug, Consultant General and Colorectal Surgeon, Royal Alexandra Hospital, Paisley

### **Developing Novel Microfluidic Point-of-Care Spectroscopic Biofluid**

**EngD student:** Pretheepan Radhakrishnan

**Supervisors:** Dr Matthew Baker, Pure & Applied Chemistry; Prof Nigel Mottram, Mathematics & Statistics and Dr Monica Oliveira, Mechanical & Aerospace Engineering

**Clinical/Industrial collaborator:** Dr Roman Lukaszewski, Defence Science & Technology Lab, Salisbury; Prof Timothy Dawson, Lancashire Teaching Hospitals NHS Trust, Preston; Mr Michael Jenkinson, The Walton Centre NHS Foundation Trust, Liverpool

### **Reprogramming cell function: controlling the transformation of muscle cell from a contractile to a migratory cell using materials engineering and time-lapse imaging**

**EngD student:** Manuela Ratnayake

**Supervisors:** Prof John McCarron, SIPBS and Dr Mairi Sandison & Prof Helen Grant, BME

**Clinical/Industrial collaborator:** Dr Paul Rocchicciolo, Golden Jubilee National Hospital

### **Design and Characterization of Nan-structured functional surfaces for medical devices**

**EngD student:** George Wallace

**Supervisors:** Dr Zhenyu Zhang, Chemical & Process Engineering and Dr Richard Black, BME

**Clinical/Industrial collaborator:** Lucideon: in-kind support; Depuy International: in-kind support for work materials

### **Multi-scale imaging and modelling tools for patient stratification and targeted, personalised musculoskeletal rehabilitation**

**EngD student:** Jonathan Williams

**Supervisors:** Dr Sylvie Coupaud, BME; Prof Elizabeth Tanner, BME Univ of Glasgow and Dr James Windmill, EE

**Clinical/Industrial collaborator:** Queen Elizabeth National Spinal Injuries Unit (QENSIU), Southern General Hospital, Glasgow