Specialist Facilities & Equipment

Expand and **strengthen** your research capacity through strategic engagement with DCU.

Target Selection

Proteomics
- ABI 4800 Plus MALDI TOF
- Thermo LTQ Orbitrap XL

Advanced microscopy
- Leica SP2 AOBS Confocal Microscope
- Time-lapse Nikon Eclipse Tie fluorescent inverted microscope with a cooled Photometrics Cool Snap HQ2 camera (controlled via Metamorph software)
- Flow cytometry including high-throughput analysis (Guava EasyCyte Plus platform)
- BD FACSAria cell sorter

Bio-informatics
- Date analysis routines using R and Bioconductor and the application of multivariate statistics and machine learning approaches such as:
- Principal components analysis
- Partial least squares
- Artificial neural networks
- Support vector machines

Sample Biobank (Oncology)

Pre-Clinical Development

Animal Models
- Pain
> Osteo-Arthritis,
> Rheumatoid Arthritis
> Neuropathic Pain

- Inflammatory Disease
- Cardiovascular Disease
- Diabetes

Design & Development of Therapeutics

- Automated **high-throughput screening** for ion-channel activity **(Q-patch technology)** - dose-response and toxicity studies
- Advanced facilities for rapid screening and characterisation of antibodies
- **Biocore 4000** - high quality, high content data, parallel analysis array format system
- Ultra-sensitive **Pharmaceutical Quantification** and **Pharmacokinetics** (Agilent 1200 Rapid Resolution LC system integrated to a 6400 Triple Quad Mass Spec detector).

Design & Optimisation of Medical Devices

- **Polymer Microfabrication Suite**
- **Ultrasonic medical device technology**
- **Casting**
- **Prototyping** of medical devices
- **Computer Aided Design** of medical devices
- **Computational Fluid Dynamics**
- Non-contact **Topography Characterisation**
- High velocity oxy-fuel coating spraying **(HVOF)** and **Thermal Spray** capabilities

Clinical Testing

- **Biosafety**
- **Phase I/II clinical trials**

Manufacturing

- **GMP** accredited manufacturing
- **Bioprocessing pilot plant,** including on-line monitoring and control of bio-processes