University of Reading Perspective

Dr Susan Matos, Knowledge Transfer Centre
University of Reading

Overview

- The University of Reading's approach to Knowledge Transfer
- How this fits with the network
- Highlights of relevant research and activities across the University

Knowledge Transfer at Reading

- Our work focusses on building and facilitating relationships
- Supporting projects building new capability within external organisations and companies
- The key is projects that bring benefits to all partners, including the academics
- Working closely with colleagues across the University, including commercialisation, Careers, Entrepreneurship etc.

How this fits with the network

- Wealth Creation is a key aspect of many funding streams, including the AHSNs
- We have experience supporting Wealth Creation through:
  - Supporting companies in innovating
  - Creating new jobs
  - Enhancing our research
- Already working with key teams at the Royal Berkshire Hospital
- Potential to collectively engage and collaborate with a wider range of organisations

Relevant collaborative work

- Brief overviews of some collaborative projects
- Illustrates a diverse range of activities
- From research centred, through practice based and full commercialisation

GENTLE/s Rehabilitation Project

- Collaborative project with RBH
- First rehabilitation robot in Europe
- Focus on upper limb therapy
- Able to adapt to range of users and abilities from all movement by robot through to control where range of movement exists
- Two similar robots now being further developed at other universities
- Follow on work within UoR is focussing on within the Neurodynamics and Cognition research group
- Search YouTube “Robotics Reading”

SPHERE Project

- **SPHERE** – **S**ensor **P**latform for **HE**althcare in a **R**esidential **E**nvironment
- An interdisciplinary research collaboration with Bristol and Southampton, funded by EPSRC
- Involves clinicians, local authority, charities and industry partners
- Using an interdisciplinary approach for developing sensor technologies to monitor people in their homes
- Aim is to install in 110 homes
- http://www.irc-sphere.ac.uk/

Gaming technology – Part 1

- Collaboration with RBH
- Investigating the use of low cost technologies (e.g. an array of Microsoft Kinect sensors) in radiotherapy treatment
- Aim is to track movement of internal tumours to direct and enhance current radiotherapy treatment practices and reduce unnecessary exposure of healthy cells
- Could have other applications e.g. micro surgery

Gaming technology – Part 2

- Collaboration with RBH with from staff and patients at Headway Brain Injury Association
- Games found to be positively received by patients, but "off the shelf" games tend to be too fast and complex
- Also, only provide anecdotal evidence of improvement as the games can't provide useful metrics
- Tailored therapy developed – Prescription Software for use in Recovery and Rehabilitation (PURR)

Gaming technology – Part 2

- Working with medical practitioners, developed Patient Rehabilitation Experiences and implemented suitable metrics

University of Reading

Therapeutic Mammalian Cell Cultures

- Developed technology for maintaining mammalian cell cultures in a quiescent state
- Method involves a simple and quick encapsulation in alginate – encapsulated the cells remain viable at ambient conditions for up to 7 days
- Allows supply of live cells in therapeutics clinical treatment to companies working the area of cell therapies and regenerative medicine
- Cell cultures can be delivered in an easy to use form, providing considerable cost and time efficiencies
- The technology is highly scalable

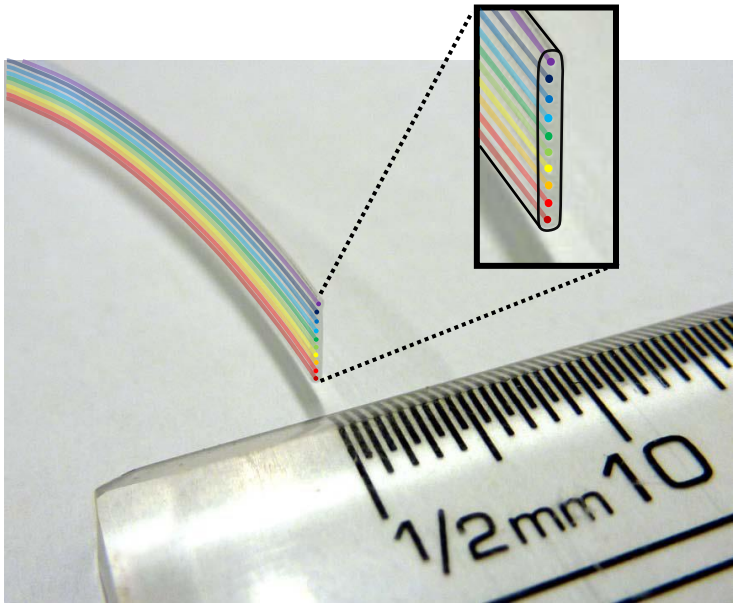
Knowledge Transfer Centre

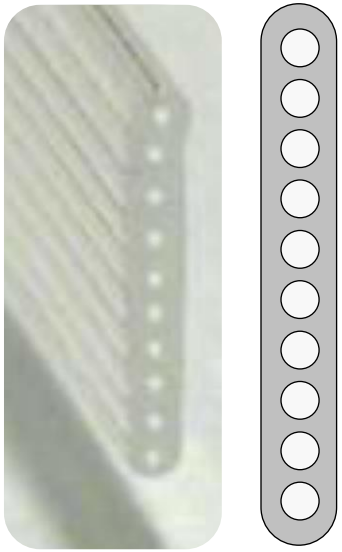
Micro Capillary Film

- With collaborators from Loughborough and Cambridge, Dr Al Edwards has pioneered the use of a novel microstructured material, Micro Capillary Film (MCF), for diagnostic assays
- MCF made from a fluoropolymer and is made exclusively by a small UK manufacturing company
- Overcomes a major barrier to the widespread uptake of “lab-on-a-chip” microfluidic technology for NHS applications – COST

University of Reading

Micro Capillary Film





Knowledge Transfer Centre

Micro Capillary Film

- Low-cost continuous manufacturing process
- Offers affordable microfluidic testing ideal for point-of-care or bedside diagnostics
- Ability to perform multiple quantitative diagnostic measurements on a single sample
- The network will allow Dr Edwards to find diagnostics applications for MCF technology and develop affordable microfluidics testing products aligned with NHS needs in partnership between Reading University, CFT, and Health professionals in the region

Contact Us

www.rdg.ac.uk/ktc

ktp@reading.ac.uk

@UniRdg_KTP

Dr Susan Matos
Head of Knowledge Transfer Programmes

Knowledge Transfer Centre
University of Reading