Research Centre	**MedEx and Insight**
Studentship	**PhD Studentship**
	in Exercise Behaviour Change and Mobile Health Interventions
Duration:	**4 years**

Background:

The **Insight Research Centre** for Big Data Analytics (http://www.Insight-centre.org) is a joint initiative between researchers at University College Dublin, NUI Galway, University College Cork and Dublin City University, as well as other partner institutions. It will bring together a critical mass of more than 200 researchers from Ireland's leading ICT centers to develop a new generation of data analytics technologies in a number of key application areas.

The €85m center is funded by Science Foundation Ireland and a wide range of industry partners. Insight's research focus encompasses a broad range of data analytics technologies and challenges, from machine learning, decision analytics and social network analysis to linked data, recommender systems and the sensor web. With more than 30 partner companies Insight researchers are solving critical challenges in the areas of Connected Health and the Discovery Economy.

MedEx is a unique and new model of community-based chronic illness rehabilitation. Developed by Dublin City University in 2006; it is a partnership between a third level educational institution and the healthcare setting. MedEx's core concept is the provision of quality evidence-based exercise rehabilitation, supported by medical supervision, for people with diverse chronic illnesses. In 2014, MedEx caters for 500 patient visits per week across 5 separate chronic illness programmes. These programmes are **HeartSmart** (cardiac rehabilitation), BreatheSmart (pulmonary rehabilitation), Smart Steps (claudication rehabilitation), Diabetes Health Steps (diabetes care) and Move On (cancer rehabilitation). MedEx's long term aim is to ensure that MedEx participants will have access to the best care possible, research is essential in making this happen. The **MedEx Research Cluster** is a dynamic multi-disciplinary team of experts in physical activity, health and disease prevention spanning disciplines including psychology, health promotion, physiology, biomechanics and connected health. It is part of the Centre of Preventive Medicine, located within the School of Health and Human Performance.

The Project:
mPATHway (**m**obile **P**hysical **A**ctivity **T**owards **H**ealth) is a project designed to utilise the expertise of Insight and MedEx to provide individualised **mHealth** rehabilitation pathways for individuals living with established cardiovascular disease. Its mission is to provide a personalized comprehensive lifestyle intervention to empower participants to better understand and manage their cardio-vascular disease (CVD) and ultimately benefit from leading a healthier lifestyle. The primary aim is to increase minutes of daily physical activity through a selection of options (self-directed programmes or structured-exercise programmes), underpinned by behavioural change theory and using cutting edge technology for intervention delivery. The secondary aims are i) to improve other lifestyle related behaviours - diet, stress management, smoking cessation, alcohol moderation and medication compliance – associated with improved CVD score, ii) to understand the optimal use of technology for achieving these improvements in behaviour and for encouraging social interaction between participants as they engage in the programme, and iii) to develop an efficient communication system for providing regular accessible feedback to the participant, but also for providing progress reports to the participant's primary healthcare provider.

The intervention will use technology to develop a mobile phone enabled sensor-based home and outdoors exercise and physical activity platform. This will allow remote participation in physical activity programs. The programmes will be designed to encourage individual or group-based participation via the technology; they will be accessible at a time, day and for a duration selected by the participant. Feedback will be provided to the participant, the method and mode of this is to be designed within the study. Information will also be communicated, via the technology, to the healthcare professional responsible for long term care of the participant. In this way, underpinned by behavioural change theory, we hope to sustain motivation and increase long-term adherence to the technology enabled physical activity programmes designed specifically for patients with established CVD.

Principle Duties and Responsibilities:
Reporting to the Principal Investigator, Catherine Woods, the PhD student will:

- Conduct a specified programme of research under the supervision and direction of the Principal Investigator focused on extending the current state of the art with respect to technology enabled health behaviour change for CVD patients, strategies for overcoming barriers to use of technology solutions amongst CVD patients and understanding healthcare providers needs and wants in relation to mHealth.
- Engage in the dissemination of the results of the research in which he/she is engaged with the support of and under the supervision of the Principal Investigator
- Supervise and assist undergraduate students working in this area with their research
- Engage in appropriate training and development opportunities as required by the Principal Investigator, the School or Research Centre, or the University
- Carry out administrative work associated with the programme of research as necessary

You will become part of the MedEx Research Cluster and will have the full support and access to the Insight and School of Health and Human Performance resources and postgraduate laboratories. DCU is committed to the all-round academic and professional development of our research students.

Minimum Criteria:
Applicants should have a postgraduate qualification or an upper second class honours degree in physical activity and health, psychology, sport science and health or a cognate area.

Candidates should ideally have experience in behaviour change, intervention design, development and evaluation within community-based settings, and be familiar with quantitative and/or qualitative research methods. Ideally, experience in technology solutions for addressing physical inactivity or promoting health behaviours among general population or clinical groups would be of benefit. You would also need to be able to demonstrate your ability to work independently with support of a teaching or research supervisor and the enthusiasm to contribute to a stimulating teaching and research environment.

Candidates will be assessed on the following competencies:

Discipline knowledge and Research skills – Demonstrates knowledge of a research discipline and the ability to conduct a specific programme of research within that discipline.

Communicating Research – Demonstrates the ability to communicate their research with their peers and the wider research community (for example presenting at conferences, publishing research in relevant journals) and the interest in teaching or tutoring undergraduate students.

Informal enquiries to:
Dr. Catherine Woods, Senior Lecturer, School of Health and Human Performance, Dublin City University, Dublin 9, Ireland. Email: Catherine.Woods@dcu.ie, http://www.dcu.ie/shhp/index.shtml.
Dr. Deirdre Walsh, Insight and School of Health and Human Performance, Dublin City University. Email: Deirdre.Walsh@dcu.ie

Bursary: **€16,000 per annum, plus fees (€5,500 per annum)**

Closing date: **7th August, 2015** (Successful applicants will be invited for **interview on August 20-21st**)

Application Procedure:

Interested applicants should submit a Curriculum Vitae with cover letter and a one page research proposal to **Deirdre.Walsh@dcu.ie** by August 7th 2015.