Research Centre:	**Insight SFI Centre for Data Analytics** and **School for Health and Human Performance**, Dublin City University, Dublin, Ireland
Post title:	**PhD** (understanding biomechanical based running related injuries)
Post duration:	**4 years (depending on the applicant's background)**

Background

This research is being coordinated by Dr Kieran Moran (www.linkedin.com/in/kieranmorandcu) in a collaboration between **the Insight SFI Centre for Data Analytics** and the **School for Health and Human Performance**, DCU.

The Insight Centre for Data Analytics (http://www.Insight-centre.org) is an SFI funded Research Centre which brings together researchers from University College Dublin, NUI Galway, University College Cork, and Dublin City University, as well as other partner institutions, Trinity College Dublin (TCD), University of Limerick (UL), National University of Ireland, Maynooth (MU) and Tyndall National Institute. It creates a critical mass of more than 400 researchers from Ireland's leading ICT clusters to carry out research on a new generation of data analytics technologies in a number of key application domain areas, such as Health and Human Performance, Smart Communities, Internet of Things, Enterprise and Services and Sustainability and Operations.

The €150m Centre is funded by Science Foundation Ireland and a wide range of industry and European Union partners. Insight's research focus encompasses a broad range of data analytics technologies from machine learning, decision analytics and social network analysis to linked data, recommender systems and the sensor web. Together, with more than 220 partner companies, Insight researchers are solving critical challenges in the areas of Connected Health and the Discovery Economy.

The **School for Health and Human Performance** (www.dcu.ie/shhp/index.shtml) was established in 1999 and has over 20 full-time staff and 40 postgraduate researchers. It offers four undergraduate degrees, two of which are in Athletic Therapy & Training (BSc Hons) and Sport Science and Health (BSc Hons). The School has significant expertise in a number of areas, including movement biomechanics and musculoskeletal injuries.

Area of research:

The rate of running related injuries is very high. Unfortunately, our understanding of the causes of these injuries is relatively low because the vast majority of studies to date are retrospective in nature. This is due to challenges associated with biomechanically assessing running technique and loading. This research project will undertake a large-scale prospective study using small wearable sensors (inertial sensors) to address this. Participants will wear the sensor(s) for 9 months during all of their runs, and provide additional information via a Insight developed smart-phone app. In parallel, we will develop a running re-education centre that will use state of the art technologies (both inertial sensors and motion analysis systems) to provide real-time feedback to runners to help them utilise a safer running technique.

This is a unique opportunity to bring the areas of injury biomechanics and wearable sensor technology together.

Eligibility:

Applicants should have a strong undergraduate or Masters degree in Physiotherapy, Physical Therapy, Athletic Therapy & Training or related degree.

To register for a Postgraduate Research programme, a candidate must normally have obtained a primary degree classification equivalent to Lower Second Class Honours or above, from an approved University or an approved equivalent degree-awarding body, or have an approved equivalent professional qualification in an area cognate to the proposed research topic. See http://www.dcu.ie/registry/postgraduate/faq.shtml#q3

English language requirements for non-native speakers of English is available here: https://www.dcu.ie/registry/english.shtml

The successful candidate will also be expected to participate in Graduate Training:
Advanced training, in the form of accredited modules, known as 'Graduate Training Elements' or GTEs, are an important aspect of DCU's graduate research experience. Information on graduate training at DCU is available here: https://www.dcu.ie/graduatestudies/training.shtml

The successful student will be expected to undertake and pass a minimum of 20 credits of taught modules for the duration of their studies.

Training

The successful candidate will be required to undertake the following training:

- Orientation
- Health & Safety
- Intellectual Property (IP)
- Data Protection (GDPR)
- Other training may need to be undertaken when required

Essential Skills:

- Applicants should have a strong undergraduate (2.1 or above) or Masters degree in Physiotherapy, Physical Therapy, Athletic Therapy & Training or related degree.
- Experience and a strong understanding of musculoskeletal injury assessment
- Good communication and written skills
- Experience of the research process (at least an undergraduate level)
- Strong data and statistical analysis skills

Desirable skills:

- Experience of engaging with 'Patient and Public Involvement in Research'
- An understanding of biomechanical analysis of human movement
- Experience with communicating research and/or science to a lay audience

Stipend:
This is a 4 year fully funded structured PhD position with a stipend of €18,000 per annum (tax-free) and University fees.

Application Process

Each application should only consist of (i) a full CV, and (ii) a letter of introduction. In the letter, applicants should include the following details:

1. An explanation of your interest in the research we plan to conduct and why you believe they are suitable for the position.
2. Details of your final year undergraduate project (if applicable)
3. Details of your MSc project (if applicable).
4. Details of any relevant modules previously taken, at undergraduate and/or Masters level.
5. Details of any relevant work experience (if applicable).

Applications should be submitted by email to Kieran.moran@dcu.ie with the **subject line: *"Insight PhD 2021"*** by 19th February 2021.

Interviews will be carried out as soon as suitable candidates are identified.

Application End Date: 19th February 2021

Start Date: The position commences in March or April 2021 depending on the availability of the applicant

Informal enquiries to:
E-mail: Kieran.moran@dcu.ie
Phone: +353 87 2750171
For all email enquiries please include ***"Insight PhD 2021"*** in the subject line

W: insight-centre.org