As part of this role the researcher will be required to participate in the DCU Research Career Framework. This framework is designed to provide significant professional development opportunities to Researchers and offer the best opportunities in terms of a wider career path. The role may include teaching duties to assist with module delivery.

Background

Dublin City University (www.dcu.ie) is a research intensive, globally engaged, dynamic institution which has developed its own research specialists, established internationally recognized centres of excellence that have substantive collaborative links with leading universities and industrial partners. DCU is distinguished both by the quality and impact of its graduates and by its focus on the translation of knowledge into societal and economic benefit. Through its mission to transform lives and societies through education, research and innovation DCU acts as an agent of social, cultural and economic progress. DCU is Ireland’s fastest growing university and now hosts more than 17,000 students across its three academic campuses: DCU Glasnevin Campus, DCU St Patrick’s Campus and CU All hallows campus. DCU has a strong track record in attracting both Irish and European Union research funding under Horizon 2020 (and all previous Framework Programmes), Marie Curie Actions and Erasmus. We offer a dynamic and internationally-focused environment in which to advance your academic career.

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 University (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, conclusion 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 Project
Insight wishes to recruit a Post-Doctoral Researcher on a fixed-term contract basis to facilitate the processing and analysis of already collected motion analysis and inertia sensor data from a prospective running injuries study, to help develop industry-funded research Targeted Project links related to biomechanics, and explore the feasibility of a running injuries intervention study. This role requires the candidate to have a strong background in human movement biomechanics, experience in industry partnerships and working knowledge of machine learning.

Principle Duties and Responsibilities
Reporting to his/her Principal Investigator the duties and responsibilities of the Postdoctoral Researcher will include:

- Process motion analysis data (Vicon, UK) and inertial sensor data (Shimmer, Ireland), collected already as part of a large scale prospective study on running related injuries.
- Apply machine learning and data analytical techniques to explore the relationship between the processed data and predisposition to running related injuries.
- Help develop industry-sponsored research Targeted Project links related to sensed data and the biomechanics of injury, performance or health. This will include helping to identify potential industry partners, demonstrating Insight’s capabilities and overseeing on the delivery of the project.
- Collect biomechanical based data (e.g. motion analysis, inertial sensor, pressure insoles) on projects within our programme of research
- Support the overall research programme of the research group in close collaboration with PhD researchers.
Disseminate through peer reviewed publication and conference presentation the research outputs of the research group.

Carry out administrative work associated with the programme of research as necessary.

**Qualifications, Skills and Experience Required**

The ideal candidate will have a PhD in a relevant discipline and should have at least 1 year of relevant experience. In addition, the candidate should have;

- Excellent knowledge and experience with biomechanical data collection systems, including: motion analysis systems (e.g. Vicon, UK), inertial sensors (e.g. Shimmer, UK), and insole pressure systems (e.g. Novel, Germany).
- Significant experience in examining the relationship between the biomechanics of human movement and either injury, performance or health.
- Experience in undertaking industry funded biomechanical-based research.
- Knowledge and experience of one or more of: MATLAB, Python.
- Knowledge of machine learning and advanced data diagnostics approaches.
- Knowledge of data warehousing standards.

**Skills**

- Excellent written and oral proficiency in English (essential), good communication and social skills both written and verbal.
- Proven ability to prioritise workload and work to exacting deadlines.
- Flexible and adaptable in answering to stakeholder needs.
- Strong team player who is able to take responsibility to contribute to the overall success of the team.
- Avid and structured approach to research and development.
- Excellent problem solving abilities.
- Desire to learn about new technologies and approaches to data exploration

**Mandatory Training**

The post holder will be required to undertake the following mandatory compliance training: Orientation, Health and Safety and Intellectual Property and Data Protection training. Other training may need to be undertaken when required.
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.

**Understanding the Research Environment** – Demonstrates an awareness of the research environment (for example funding bodies) and the ability to contribute to grant applications.

**Communicating Research** – Demonstrates the ability to convey their research with their peers and the wider research community (for example presenting at conferences and publishing research in relevant journals) and the potential to teach and tutor students.

**Managing & Leadership skills** - Demonstrates the potential to manage a research project including the supervision of undergraduate students.