Position Title	PhD Studentship in Radio Access Network Slicing
Project Abstract	*Network slicing* is one of the overarching features towards 5G-and-beyond to achieve the true potential of the network resource utilization and efficiency. By establishing the framework of network slicing through air-interface heterogeneous signal orchestration and efficient resource allocation, this PhD project will underpin efficient end-to-end network slicing. We consider network slicing as a solution to design, customize, and optimize different subnetworks (or slices) on a common physical network infrastructure. This project will develop a novel algorithmic framework leading to improved efficiency in terms of spectrum, cost, and complexity. This framework aims at supporting a complete end-to-end network slicing for the diverse ecosystems emerging in future networks, which is an open problem yet to be addressed. In particular, the approach is based on advanced configurable time-frequency grid design through adaptively changing the subcarrier-spacing/symbol-duration to accommodate a wide set of use-cases, i.e. those from delay-tolerant to latency-critical systems such as massive machine type communications (mMTC) and ultra-reliable low latency communications (URLLC) applications, respectively. This project will be a part of the research being conducted within the Science Foundation Ireland Research Centre for Future Networks and Communications CONNECT (https://connectcentre.ie/) touching upon a wide range of applications and scenarios emerging in the networks of the future. This project will be jointly undertaken within UCD (one of CONNECT centre academic partners) and the Communication, Sensing and Imaging research group (CSI) in the University of Glasgow. This project is in collaboration with Dr. Lei Zhang at the University of Glasgow and Dr. Mark Flanagan at University College Dublin. The PhD student will also benefit from collaboration with other CONNECT PhD students. Dr. Zhang's experience in the world leading telecommunications industry, Huawei, will help the project from its very early stage to stay in-line with practical requirements of system design as well as future wireless directions to maximize the project influence.
Location	University College Dublin (UCD)
Experience	PhD applicants must hold at least a first or upper second class honors Bachelors or Masters degree in Electrical, Electronic Engineering (or a related discipline), and should possess strong mathematical, analytical and programming skills. In particular, excellent background in communication theory and signal processing algorithms are expected. Excellent writing and oral communication skills are also required.

Funding / Stipend	The PhD position is funded for 4 years, including a monthly stipend and a travel budget to present at international conferences, workshops and seminars. The studentship will cover fees up to 5,500k pa and a stipend of 18,500k pa.
Closing Date	30th June 2018
Contact	Dr. Arman Farhang, arman.farhang@ucd.ie
Application Process / Additional Information	Early applications are encouraged. Applications should include: 1) a cover letter (1 page) explaining their interest in the project topic and mentioning any relevant background and/or experience; 2) a Curriculum Vitae. Academic transcripts and two academic references will be required after a shortlisting process takes place. Informal enquiries concerning this position, accompanied with the CV and a motivation letter, can be made to Dr. Arman Farhang, (arman.farhang@ucd.ie), and Dr. Lei Zhang (Lei.Zhang@glasgow.ac.uk). Details of the official application process will be communicated to the candidates in return.