JOHN O’SULLIVAN PhD SCHOLARSHIP in Wireless Communications (One position, three years)

School of Electrical Engineering and Telecommunications
The University of New South Wales, Sydney, Australia

and

CSIRO ICT Centre, Marsfield, NSW

JOHN O’SULLIVAN POSTGRADUATE SCHOLARSHIP is supported by SCIENCE AND INDUSTRY ENDOWMENT FUND (‘SIEF’) via a project entitled “Evolving Small-cell Communications towards Mobile over Fiber-to-the-x (FTTx) Networks”.

The scholarship is to support a PhD student to work with the research team of University of New South Wales and CSIRO ICT Centre on the project and develop critical signal processing, transmission and receiving techniques for innovative mobile over fibre-to-the-x (FTTx) (MoF) networks. Currently, FTTx networks are being deployed world-wide to provide high speed broadband access to homes, such as the National Broadband Networks (NBN) in Australia. MoF is a concept where the FTTx networks are integrated into existing cellular networks and enhanced to provide very high-speed wireless connections to mobile devices through simple, low-cost units installed in homes. Using the FTTx optical fibre infrastructure as backhaul, neighboring units are grouped to form virtual cells, which can be as dense as hundreds per square kilometres. Through cooperation between these units and virtual cells, one mobile device can achieve connection speed as high as hundreds of megabytes-per-second, using the whole mobile spectra without causing interference to other devices. Hence the MoF networks can significantly reduce the area in which frequency cannot be reused from several square kilometres to a few hundred square metres, and is thus a most efficient and low-cost way of using scarce radio spectra for broadband wireless communications.

Candidates are expected to have a strong interest in at least two of the areas listed below: Signal Processing, Digital Communications, Linear algebraic, and Coding,

The student will be jointly supervised by world-leading researchers from the Wireless Communications Lab, the University of New South Wales, and the wireless and networking laboratory, CSIRO ICT Centre. This will be a great opportunity for those who are interested in the research and development of leading-edge wireless systems.

An attractive tax-free scholarship of AUD$32,000 per annum will be offered. Research activities such as attending conferences will also be strongly supported.

Student Eligibility Criteria

The Student must have, or expect to gain, first class honours or equivalent in a relevant research area and be:
• selected from a competitive process;
• a full-time student;
• enrolled at UNSW for a PhD;
• an Australian citizen or Australian permanent resident;
• able to commence the study prior to 31 March 2013.

The Student will be engaged on the Project on a full-time and continuing basis on the usual terms and conditions applicable to PhD students at UNSW.

In addition to the student supported by the John O’Sullivan scholarship, we also welcome any other students who are interested in working on this new and exciting project to contact us. A top-up scholarship may be awarded to a student who is successful in getting other scholarships.

Further Enquiries:
Professor Jinhong Yuan (j.yuan@unsw.edu.au)
Dr Iain Collings (Iain.Collings@csiro.au)
Dr Andrew Zhang(Andrew.Zhang@csiro.au)

Applications Close: 20th December 2012
Position Commences 31st March 2013