Weekly Seminar by Dr Qing Zhong
*From Children’s Medical Research Institute and University of Sydney*

Cancer Data Science for Mass Spectrometry-based Proteomics
**Tuesday 5th February 2019**
*At the Department of Molecular Sciences, Macquarie University*

**Abstract**

Dr Qing Zhong will give an overview of ProCan, a flagship program at the Children's Medical Research Institute. The aim of ProCan is to generate and analyse a pan-cancer proteome database of tens of thousands of human cancers of all tumour types in the next 7 years. He will then introduce the mass spectrometry-based proteomics and a typical ProCan workflow that shows how biological samples are turned into permanent digital proteome maps. Next, he will talk about some ongoing projects, such as discovery of prognostic biomarker for stratifying prostate cancer patients with intermediate Gleason scores, proteomic profiling of neuroblastic tumours, investigation of ovarian tissue heterogeneity, and proteogenomic analysis of lung cancer. In addition to these research topics, he will also present several technical studies regarding feature stability by machine learning and cross-instrument reproducibility. ProCan believes that these projects will add to the landscape of precision cancer medicine and facilitate the delivery of molecular data to cancer clinicians, in a clinically-relevant time frame, to maximise the accuracy of treatment decisions.

**Biography**

Dr Qing Zhong is a data scientist with expertise in analysis of biological and medical data by machine learning techniques. He has a science doctorate from the Swiss Federal Institute of Technology (ETH) Zurich, and a decade of experience working in an interdisciplinary environment that involves collaboration between biologists, clinicians, and industry partners. His postdoctoral training was at the University of Zurich and its affiliated hospital, where he developed expertise in analysis of omics data, and designed and performed a proof-of-concept study, to test a clinical big data system for consolidating genomic, clinical and demographic information into a unified model for precision and data-driven medicine. He joined Children's Medical Research Institute (CMRI) in 2017 to head the Cancer Data Science group.