



Project Title: Cardiac Magnetic Resonance Imaging and Advanced Electrocardiography for detecting subclinical heart disease		Code: NCS7
Host School / Institute: Northern Clinical School/ Kolling Institute	Address: Kolling Building, Level 12, Royal North Shore Hospital, St Leonards, NSW	
Certificates & Clearances required: Yes *Police clearance <i>Information on how to obtain certificates, where necessary, will be given to successful applicants.</i>		
Primary Supervisor: Prof Martin Ugander		
Phone: 0481 134 220	Email: martin.ugander@sydney.edu.au	
Co-Supervisor/team: Project will be performed together with team member of the USyd Cardiovascular Magnetic Resonance Group led by Prof Ugander, in collaboration with collaborators at the Karolinska Institute, Sweden, and University of Auckland, New Zealand.		
Project Type: Clinical; Data Analysis; Clinical		
Project Category: Cardiovascular; Imaging		
Skills / Attributes of a successful student: The successful student will have strong both analytical and communication skills, as well as strong computer skills, and be highly motivated to perform clinically meaningful research on a world-class project with experienced supervisors. Skills or a willingness to learn to use statistical data analysis methods with the software R are beneficial, but not mandatory.		
Project Keywords: Electrocardiography (ECG); Magnetic resonance imaging (MRI); Heart disease; Cardiology; Clinical research		
Project Description: Magnetic resonance imaging (MRI) of the heart is a state-of-the-art imaging method that offers the ability to definitively diagnose or rule many suspected heart diseases. Furthermore, recent advances in digital signal processing for electrocardiography (ECG, the electrical activity of the heart) have dramatically improved the ability to use ECG to diagnose or rule out heart disease that previously required more comprehensive evaluation including MRI. We have a number of projects related to Advanced ECG analysis using uniquely available dedicated software, and/or cardiac MRI data. The main purpose of the project is to use Advanced ECG to develop or evaluate new abilities to identify or rule out heart disease in clinical populations, where MRI may typically serve as the definitive diagnosis.		