

RPAH Cardiovascular Genetics Future Leader Fellowship

Overview of Research

Major advances have been made in defining the genetic basis of cardiovascular diseases, including the inherited heart muscle problems (cardiomyopathies) and the primary electrical (arrhythmogenic) disorders. The most tragic and devastating complication of many of these genetic heart diseases is sudden cardiac death in the young. While there has been significant progress, many questions remain unanswered. In most of the genetic heart diseases, **a genetic cause is not identified in up to 50% of patients**. Furthermore, in those where a genetic cause has been identified, how these gene variants lead to clinical disease remain unclear. Our world-class research focuses on the identification of new genetic causes of disease in families with genetic heart diseases, elucidation of the underlying molecular mechanisms in how these diseases develop, and application of this new knowledge in the clinical setting to improve diagnosis and management. Using an integrated, state-of-the-art approach of clinical and genetic human studies, and patient-derived cell culture models, it is expected that new genetic knowledge, and translation of these findings to enhance diagnostic and therapeutic approaches, will lead to improved care of families with genetic heart diseases and prevention of sudden cardiac death, particularly in the young.

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The inaugural recipient of this 2-year fellowship (total \$200,000) will be **an early career female researcher** who is within 8 years post-PhD. The fellowship will be open to motivated cardiology trainees, basic scientists, and clinical researchers with the over-arching goal to develop as future leaders in the field of Genetic Heart Diseases. The fellowship will provide opportunities to undertake clinical and genetic research both at the Genetic Heart Disease Clinic program at RPAH, and at the Agnes Ginges Centre for Molecular Cardiology at the Centenary Institute. Both the clinic program and research centre were established, and are led by, Prof Chris Semsarian, who will also provide structured mentorship and guidance. The Fellowship will provide opportunities to present research at major national and international meetings, with the goal to develop true world leaders in the field of Genetic Heart Diseases.

For more details, contact:

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