

For 2005, 10 Research grants were awarded totalling \$330,000.

**The Ladies' Committee Sr Mary Bernice Grant - \$100,000**

*"Identification of disease genes in familial atrial fibrillation"*

*Dr Diane Fatkin - Principal Investigator*

Atrial fibrillation (AF) is the most common disorder of heart rhythm and is a major risk factor for heart failure, stroke and death in our community. Recent data suggest that AF can result from inherited gene defects. Very little is known, however, about what these genes are, and the mechanisms by which gene defects cause AF. We hope to identify disease-causing genes in families with AF and hence, to find new approaches to the diagnosis and management of this disorder.

*Research undertaken at Victor Chang Cardiac Research Institute*

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**Tancred Research Grant - \$50,000**

*"Identifying novel pathogenic mechanisms in nasal polyposis, asthma and aspirin intolerance"*

*Dr Janet Rimmer - Principal Investigator*

Nasal polyps are inflammatory lesions that can obstruct the nose and are usually removed by surgery. Nasal polyps are very common in asthmatic patients, but the reason for this is not understood. Using genomic technology, we will measure the activity of virtually every human gene (approximately 30000) in nasal polyps with and without asthma. We expect to identify new targets for treatment of inflammatory airway disease, and to understand why people with nasal polyps are at high risk of asthma.

*Research undertaken at St Vincent's Clinic & Garvan Institute of Medical Research*

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**K & A Collins Cancer Grant - \$50,000**

*"Role of glutamate in regulating cell proliferation in the central nervous system"*

*Dr Bryce Vissel - Principal Investigator*

Neural stem cells (NSCs) in the adult human brain have the capacity to replicate indefinitely, but, unlike brain tumours, their replication appears to be highly regulated. It was recently discovered that one signal in the brain, called glutamate, can induce both NSC and brain tumour proliferation through mechanisms that are currently unknown. We aim to identify the common mechanisms by which glutamate regulates this growth. Through this, we believe we will identify approaches for developing drugs to treat brain tumours.

*Research undertaken at Garvan Institute of Medical Research*

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### **Di Boyd Cancer Grant - \$20,000**

*"Single nucleotide polymorphism-based real time PCR method for haematopoietic chimerism assay post allogeneic stem cell transplantation"*

*Dr Yi-Mo Deng - Principal Investigator*

Allogeneic hemopoietic stem cell transplantation is an effective therapeutic tool for the treatment of blood cancer. The success of the treatment is dependent on the donor cells growing and not reacting against the recipient. We aim to develop a new DNA based test that will allow detection of donor cells in post-transplanted patients and to replace existing less sensitive, time-consuming and labour-intensive diagnostic tests. A sensitive method to monitor donor cell percentage in the recipient bone marrow or peripheral blood will be invaluable for predicting the success of the treatment and guide treatment decisions.

*Research undertaken at St Vincent's Hospital & Garvan Institute of Medical Research*

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### **Froulop Vascular Research Grant - \$20,000**

*"Phenotyping of vascular dendritic cells in atherosclerotic plaques (with special attention in rupture-prone regions)"*

*Prof Reginald Lord - Principal Investigator*

The systematic identification of differences in the expression of activation markers and ultrastructural heterogeneity between vascular dendritic cells microdissected in different locations in atherosclerotic lesions will provide important insights into the changes of vascular dendritic cell phenotypes in atherogenesis. The comparative evaluation of vascular dendritic cell numbers and the occurrence of vascular dendritic cell / T cell contacts in 'stable' versus 'vulnerable' plaques will highlight a potential role of vascular dendritic cells in plaque destabilisation.

*Research undertaken at St Vincent's Hospital, School of Medical Sciences & the University of NSW*

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### **Annual Grant I - \$20,000**

*"Force oscillation technique to measure upper airway function in sleep apnoea"*

*A/Prof Ron Grunstein - Principal Investigator*

We will use a special technique based on sound waves to measure the size of the throat, before and after local anaesthetic spray in that area. We expect the spray to make the airway collapse a small amount in people who are prone to be loud snorers or have breathing pauses during sleep. We will extend this project to see if this test can predict the response to throat surgery for snoring.

*Research undertaken at St Vincent's Clinic & RPA Sleep Clinic*

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### **Annual Grant II - \$20,000**

*"Generation of intervertebral disc cells from human adult bone marrow mesenchymal stem cells"*  
*Dr Helen Tao - Principal Investigators*

*Research undertaken at St Vincent's Hospital & Garvan Institute of Medical Research*

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### **Annual Grant III - \$20,000**

*"Modulation of insulin resistance and its effects on cardiovascular function and inflammation in overweight patients with acute coronary syndromes: a prospective study"*  
*Dr Stephanie Wilson - Principal Investigator*

*Research undertaken at St Vincent's Hospital*

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### **Annual Grant IV - \$20,000**

*"Kynurenine pathway in the pathogenesis of amyotrophic lateral sclerosis"*  
*Prof Bruce Brew - Principal Investigator*

*Research undertaken at St Vincent's Hospital, University of Sydney & University of NSW*

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### **Travelling Fellowship - \$10,000**

*Postdoctoral research project at Addenbrook's Hospital in Cambridge*

*"Detailed phenotypic characterisation of human melanocortin 4 receptor (MC4R) deficiency and other monogenic causes of severe obesity"*  
*Dr Jerry Greenfield*

*Department of Endocrinology*