

St Vincent's Clinic Foundation – 2020 Research Grants

SVPHS Ladies' Committee Sr Mary Bernice Research Grant \$120,000

Dr Simon Ghaly (St Vincent's Hospital Sydney)

Ulcerative colitis (UC) is a gastrointestinal disease associated with an imbalance of gut bacteria. Faecal Microbial Transplantation (FMT) aims to restore this balance and there is increasing evidence that it is effective in treating UC. Given the chronic nature of UC, a non-invasive treatment is essential to allow for maintenance therapy. Orally administered FMT is the next stage in the development of this treatment. The study aims to investigate the use of encapsulated FMT in the management of UC.

Tancred Research Grant \$50,000

Prof Jerry Greenfield (Garvan Institute)

People with type 1 diabetes experience premature death from heart disease for reasons that are not completely understood. Insulin resistance may be a treatable missing link. This study will determine if harmful patterns of insulin resistance in the liver and muscle explain differences in heart disease risk in type 1 diabetes, and if metformin can reduce insulin resistance with the potential to prevent early death.

K&A Collins Cancer Research Grant \$50,000

Dr Elysse Filipe (Garvan Institute)

Breast cancer is the second largest cause of cancer related death in Australian women. Triple negative breast cancer in particular remains the most difficult subtype to treat, due to the lack of targeted therapies. Patients rely entirely on whole-body delivery of chemotherapy agents, which is frequently ineffective. This project will evaluate how coupling nanoparticles (tiny, biocompatible capsules) to the standard-of-care breast cancer chemotherapy can improve the targeted delivery specifically to tumour tissue, enhancing retention in tumours and therefore effectiveness.

Thelma Greig Cancer Research Grant \$50,000

Dr Max Nobis (Garvan Institute)

CDK4/6 inhibitors are the emerging standard of care in advanced breast cancer and these inhibitors will extend and improve life for patients. Resistance to CDK4/6 inhibitors, however, has started to emerge with cancers recurring after approx. 20 months and there is no knowledge or strategy on how to treat these patients. Using cutting-edge imaging technology and 3D patient-derived models that mimic the disease, the researchers can map areas of poor drug response or resistance and counteract factors driving drug resistance.

Kavan Research Grant

\$50,000

Prof Michael Rogers (Garvan Institute)

This project is focused on a potentially fatal genetic disease that appears in infancy and causes bowel inflammation. The study aims to discover what makes the gut leaky, whether the bacteria in the intestine are different to healthy intestines, and whether a lipid supplement can restore the bowel back to normal.

Annual Research Grant 1

\$40,000

A/Prof Tri Giang Phan (Garvan Institute)

Primary immunodeficiency diseases are rare illnesses that are difficult to diagnose and treat. Whole genome sequencing has revolutionised the diagnosis and precision treatment of many patients but many will also remain undiagnosed. This project will use novel bioinformatic tools to mine the patients genomic data to discover new disease-causing mutations. Understanding how these mutations cause disease will provide opportunities to discover new ways to treat immune diseases and cancer.

Annual Research Grant 2

\$40,000

Dr Matthew Perry (Victor Chang Cardiac Research Unit)

Atrial fibrillation, a disorder in which the upper chambers of the heart beat irregularly, affects approx. 4% of adults and increases the risk of stroke and heart failure. Many factors, including

genetics and obesity, contribute to the development of atrial fibrillation but why some people develop this disorder whilst others do not despite having similar risk factors is unknown. The study will use cardiac muscle and fat cells derived from patients to determine how obesity interacts with genetics to increase susceptibility to the disorder.

Annual Research Grant 3

\$40,000

A/Prof Ann McCormack (Garvan Institute)

Aggressive pituitary tumours are associated with high morbidity and mortality and existing treatment options are limited. There is therefore a need to identify novel treatment options. Immunotherapy has transformed the treatment of numerous cancers, however the role of immunotherapy in aggressive pituitary tumours is largely unknown. This study aims to investigate the role of immunotherapy for the treatment of aggressive pituitary tumours.

Annual Research Grant 4

\$40,000

Dr Charles Cox (Victor Chang Cardiac Research Institute)

Both athletes and patients with diseases such as high blood pressure have enlarged hearts due to their increased workload. Increased heart size is a poor prognostic marker. Despite the athlete's heart also increasing in size there are limited associated side effects. A better understanding of these differences might lead to novel therapeutic approaches for reversing the pathological consequences of heart growth and prevent the corresponding unfavourable patient outcomes.

Annual Research Grant 5

\$25,000

Prof Jacqueline Centre (Garvan Institute)

Crohn's disease and ulcerative colitis are common chronic inflammatory diseases of the bowels that typically affect young people. These conditions are associated with higher rates of osteoporosis and fractures. This project will follow a large group of patients with Crohn's disease or ulcerative colitis with detailed assessment of bone health, blood and faecal markers to develop a tool to help physicians predict those at higher risk of osteoporosis and therefore require screening.

Multidisciplinary Patient Focused Research Grant 1

\$25,000

Mrs Rebecca Black (St Vincent's Hospital Sydney)

This is a collaborative project between intensive care, lung and heart transplant physicians, ear nose and throat surgeons and speech pathology. The study aims to prospectively identify the incidence and severity of oropharyngeal dysphagia (OPD), defined as swallowing impairment and laryngeal dysfunction (impairment of the function of the vocal cords which enable us to talk and cough) before and after lung and/or heart transplantation. The pre/post operative design of this study will allow early identification of patients who are likely to be at higher risk of OPD and laryngeal dysfunction post operatively and investigate the consequences of these complications on patient outcomes.

Multidisciplinary Patient Focused Research Grant 2

\$25,000

Joyce Baye, Rose Gordon and Prof Sandy Middleton (St Joseph's Hospital)

This study aims to determine the prevalence of hospital acquired urinary tract infections (HAUTI) including catheter associated urinary tract infections (CAUTI) and identify the barriers and enablers to implementing evidence-based HAUTI prevention practices including strategies to optimise their sustainability. Their prevention is a priority of the Australian Safety and Quality Goals for Healthcare. Until evidence-practice gaps are addressed, Australians will continue to suffer health consequences of poor HAUTI prevention. The study findings will inform clinical practice leading to benefits for patient safety and healthcare budgets.

Travelling Fellowship

\$10,000

Dr Sara Hungerford (UNSW/Victor Chang Cardiac Research Institute)

Better understand the impact of structural heart disease interventions on volume and pressure loaded left ventricular states using a variety of existing and novel imaging techniques
