SVI Highlights 2023

New hope for type 1 diabetes

An Australian world-first clinical trial by SVI's Professors Tom Kay and Helen Thomas has shown that a commonly prescribed rheumatoid arthritis drug can preserve the body's own insulin production and suppress the progression of type 1 diabetes (T1D) in those newly diagnosed with the condition. The results were published in December in the prestigious journal, *The New England Journal of Medicine*.

SVI joins in search for new treatments for a deadly disease

Associate Professor Jon Oakhill was awarded NHMRC funding in November as part of a collaboration with James Cook University and other national and international institutions to advance the management of a deadly disorder – aortic aneurysm – causing weakening of the main abdominal artery and affecting more than 4,500 Australians every year.

Family generosity powers new research

A $2.5M donation from a generous family foundation will power new research in Professor Michael Parker's laboratory into the condition Lewy Body Dementia. Lewy Body Dementia is the second most common neurodegenerative form of dementia after Alzheimer's disease. Michael and his group are working on activating the body's own immune cells to fight toxic proteins in the brain.

New Lab Heads join SVI

Three new Lab Heads were appointed to SVI in 2023. With support from the Discovery Fund, Associate Professor Andre La Gerche and Dr Irene Gallego-Romero joined the Institute, as heads of the new Heart, Exercise & Research Trials and Human Genomics & Evolution Labs. Dr Kiryu Yap was also appointed co-Lab Head of the Vascular Biology Laboratory.

Top national success rate from the National Health & Medical Research Council (NHMRC)

In the 2023 round of funding awarded by the NHMRC, SVI had one of the highest rates of grants funded nationally. An indicator of the fantastic quality of research being carried out at SVI, seven researchers were awarded Ideas Grants, and three were awarded Investigator Grants. This amounts to more than $14M worth of new funding.

A single gene could hold the answer to a number of conditions

New research from Associate Professor Wayne Crismani and Dr Davis McCarthy's labs could hold clues to the genesis of a number of genetic conditions such as trisomy 21. Led by talented PhD students, Vanessa Tsui and Ruqian Lyu, the collaborative research identified that a gene called FANCM, which is required for normal fertility levels, is involved in how our genes are passed down from one generation to the next.

Clinical Trial to explore the use of artificial intelligence to improve breast cancer detection

A clinical trial with SVI's Dr Davis McCarthy will start in 2024 to explore the use of artificial intelligence in breast cancer screening to improve the accuracy, efficiency and overall patient experience. The BRAIx Project prospective clinical trial will test the ability of artificial intelligence to read mammograms, in conjunction with radiologists.

Pioneering gene editing research funded

A multi-disciplinary team led by Associate Professor Andrew Deans were awarded just under $1 million in funding for their cutting-edge gene editing research which aims to prevent children and young adults dying from bone marrow failure syndromes. The goal of the research is to develop new treatments to correct disease-causing mutations in blood stem cells. This pioneering new

technology has the potential to transform the lives of people who require a blood stem cell transplant.

Wound healing technique to use patient's own cells

Associate Professor Geraldine Mitchell was awarded a prestigious Medical Research Future Fund grant to develop an alternative to skin flaps using bioengineered skin and incorporated blood vessels. Each year in Australia around sixty thousand people undergo painful, costly skin flap harvesting surgery to treat difficult to heal wounds.

Grant success gives 'heart in a dish' research new life

Associate Professor Shiang (Max) Lim was awarded a Medical Research Future Fund Grant to deliver new stem cell treatments for the currently untreatable debilitating genetic disease, Friedreich ataxia heart disease. Friedreich ataxia is a hereditary neuromuscular disorder that affects one in 38,000 Australians. It is most commonly diagnosed between the ages of 5 and 18 and it quickly and ruthlessly robs those diagnosed of their mobility.