The Centenary Institute

The Centenary Institute is a world-leading independent medical research institute with more than 30 years experience and knowledge guiding our life-saving research, which is focused on three key areas: cancer, inflammation and cardiovascular disease. Our strength is in uncovering disease mechanisms and applying this knowledge to improve diagnostics and treatments for patients by understanding disease and finding cures for some of the most chronic diseases affecting today’s society.

Fundamentally, the Institute is dedicated to supporting the medical research sector as a whole, and we firmly believe that our service to humanity is to better the health of our community by understanding diseases in order to find cures. We ensure that our research is relevant to the current and yet to emerge health problems of the 21st century, and we engage with the community in our quest both to inform them of our work and to be informed on the issues confronting them.

Located at the heart of the University of Sydney and the Royal Prince Alfred (RPA) Hospital precinct in Camperdown, many of our senior scientists (Faculty) are also clinicians at the hospital and professors. Their direct experience with patients and what they see in the clinics guides their research pathway in the laboratory, ensuring a virtuous cycle of bench-to-bedside research and accelerates our ability to translate cutting-edge discoveries into practice. We capitalise on this geographical advantage by continuously strengthening these relationships with a focus on multi-disciplinary collaboration to ensure that the Australian population receives the most effective and improved therapies; therefore the greatest possible benefit.

One in a Million Club

A cohort that is dedicated and passionately committed to research can be one of the most powerful tools Australia has to improve and ensure the health of our communities. It is this group’s collective efforts that can create positive and tangible outcomes that are set to significantly improve the lives of individuals and the community, as a whole.

Australia is becoming a leader in the innovation space. In this world of disruption, medical research, innovation and commercialisation will be taking an increasingly important role in the health and wealth of our nation.

The One in a Million Club will bring together 1,000 new, passionate and committed individuals whose combined investment and shared belief will generate $1 million dollars a year directly into medical research projects at the Centenary Institute.

One in a Million Club benefits

Invitations to:

- Two exclusive One in a Million Club ‘Meet Centenary Institute’s Scientists’ Cocktail Update events throughout the year
- Six Seminar presentations and Tours of the Centenary Institute around our key research themes of cancer, inflammation and cardiovascular disease

Receive:

- Monthly EDM updates from our scientists on their life-saving research
- Quarterly news updates and research highlights
- Invitations to join Centenary Institute at other events throughout the year
- Recognition on our website

1000 people = $1 million in 1 year
For Life Saving Research

Understanding DISEASE...Finding a CURE

Centenary Institute Medical Research Foundation
p: 1800 677 977 | w: centenary.org.au | e: s.stewart@centenary.org.au
Affiliated with the University of Sydney and Royal Prince Alfred Hospital
Centenary Institute Medical Research Foundation ABN 85 178 264 012 (DGR 2)
Centenary Institute ABN 22 654 201 090 (DGR 1)
You will be supporting

Dr Kimberley Beaumont | Melanoma Cell Biology Laboratory
Melanoma is the most dangerous form of skin cancer posing as one of Australia’s greatest risks. Metastatic melanoma, where the cancer has spread to distant regions of the body, is notoriously resistant to treatment, with only approximately 15% of patients remaining alive five years after diagnosis. I am studying how melanoma cells are able to spread, and am currently performing pre-clinical testing of novel therapeutic strategies for preventing melanoma metastasis.

The confocal microscope is vital for my research as I can track the movement of live melanoma cells; I can visualise proteins that are responsible for the ability of melanoma cells to divide and spread and I am able to visualise cancer cells inside a 3D model of melanoma.

Associate Professor Patrick Bertolino | Liver Immunology Program
The Liver Immunology Group is studying the unique relationship between the liver and the immune system. We are conducting research to improve treatments for viral hepatitis, transplantation and gene therapy in humans. The group uses advanced imaging technology and other state-of-the-art technologies to understand how white blood cells are instructed by hepatic cells in both the healthy and diseased or transplanted liver.

We have recently discovered a new liver cell that protects us against gut bacteria. To investigate whether it regulates also in liver disease and cancer, it is important to assess whether this cell interacts with other liver cells. This analysis requires a state-of-the-art confocal microscope that discriminates different cells with the highest detail.

Dr Chandrika Deshpande | Structural Biology Program
My project involves understanding iron homeostasis in humans, which is critical to human health. Disruption of iron balance in circulation and in cells is a major underlying disease catalyst in chronic infections and inflammatory diseases. We are investigating a protein playing a critical role in maintaining this balance with a long-term aim to be able to ‘tune’ its function in diseases.

Our laboratory focuses on understanding the 3D architecture of membrane proteins which play a critical role in relaying vital information between the cell and outside world. As such they are important drug targets. We utilise confocal microscopy to visualise and verify the precise location of these proteins in cellular membrane.

James Henderson | Molecular Hepatology Laboratory
As a student I was initially attracted to Centenary because of its excellent academic record and location. I am currently working on liver cancer and with the hope to identify new therapies. I have been studying closely the role of the underlying pathogenesis of this disease. I primarily work with mouse and human liver tissue. Centenary has state-of-the-art equipment and skilled technicians and my work has benefited greatly from the use of the confocal microscope. It has helped me to view and shed new insights into liver cancer. Without cutting edge equipment and techniques, the secrets of which we will never get an answer.

Dr Peyman Obied | Immune Imaging Program
Cytotoxic T lymphocytes (CTLs) defend us against viral infection and cancers. Circulating CTLs use different mobility mechanisms to search, find and eliminate the abnormal target cells. CTLs are capable of distinguishing normal from abnormal cells in the complex interstitial space within tissues and tumour microenvironment. Using different imaging techniques, I want to elucidate the cytoskeleton machinery for CTL movement in greater detail.

Confocal microscopy is an indispensable tool that I use to investigate all possible avenues characterising the effect of genetic modifications to CTL cytoskeleton in vitro. This provides high-resolution details on the movement, morphology and cytotoxic ability of modified CTLs on a single cell or whole population level.

Dr Angela Lay | Molecular Hepatology Laboratory
Liver fibrosis is characterised by excessive deposition of scar tissues as a result of liver repair mechanism following liver injury. Inflammation is the main driver of fibrosis which is treatable if detected early. However, we do not know how to catch them at that early stage. We aim to identify key players involved in the progression of fibrotic disease by revealing and understanding the cause of the problem, only then we can formulate a plan to combat the disease.

Confocal microscopy plays a vital role for my research and helps understand how cells respond to drug treatment. It gives us a snapshot on how treatment affects the cells phenotypes, their behaviour and their interactions with other cells within the microenvironment. Our work can be ‘abstract’, we are blind at the cellular level.

Dr Shweta Tikoo and Dr Rohit Jain | Immune Imaging Program
Our current research focusses on understanding the role of immune cells in aiding breast tumour growth and spread. We aim to decipher how tumour cells influence immune cells to perform pro-tumoural functions that increase tumour survival and spread instead of their pre-programmed tumour suppressive functions. Our preliminary studies underpin tumour-induced inflammation as a key player in changing tumour microenvironment, immune cell recruitment and function.

Confocal microscopes provide unprecedented insights into the evolving tumour microenvironment at a single cell resolution. This enables us to identify and spatially localise immune cells within this environment thereby generating a tumour-immune cell map wherein both global as well as local information can be recorded and analysed.