VICTOR CHANG
CARDIAC
RESEARCH
INSTITUTE
INNOVATION
CENTRE

Preclinical Imaging Facility

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The Victor Chang Cardiac Research Institute Innovation Centre's Preclinical Imaging Facility features a dual-modality molecular imaging platform set to advance our understanding of cardiovascular disease and improve health outcomes.

The world-class PET-MRI merges positron emission tomography (PET) with magnetic resonance imaging (MRI) to enable in vivo longitudinal imaging for changes in molecules, cells, tissues and organs.

Molecular imaging with the PET-MRI can report on specific biological, physiological and pathological processes, including cell migration, inflammation, atherosclerotic plaque composition and heart function and viability.

Based at the Victor Chang Cardiac Research Institute, the **Preclinical Imaging Facility** complements the broader Innovation Centre research infrastructure and expertise for a consolidated approach to cardiovascular health and disease.

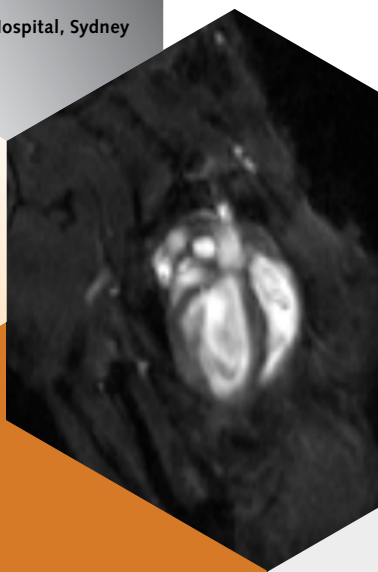
Cardiovascular Stem Cell Facility

Micro Imaging Facility

Metabolomics Facility

Advanced Cardiac Imaging Centre
St Vincent's Hospital, Sydney

Cryo-electron Microscopy Facility
UNSW Sydney



7T PET-MRI (MR Solutions)

The PET-MRI is a PET system coupled with a cryogen-free, high-field (7T) MRI enabling simultaneous PET and MR imaging data acquisition, representing the very latest innovation in preclinical imaging.

The PET-MRI can be used for cardiac imaging to assess the structure and function of the heart under pathological conditions (e.g. cardiomyopathy, congenital heart disease, heart failure and myocardial-infarction) and can be applied to assess specific biological processes (e.g. the activity of the pro-inflammatory enzyme myeloperoxidase in the context of atherosclerotic plaque instability).

Together the PET and MRI provide improved image registration facilitating the accurate anatomical localisation of PET findings with the functional MRI read outs enabling the viewing of rapidly changing physiological and pathological processes.

- Cardiovascular function
- Molecular and metabolic imaging
- Biomarker identification
- Assessment of novel tracers/therapeutics
- Myocardial viability and perfusion
- Cerebrovascular imaging (stroke)
- Oncology imaging

The Facility will provide expert advice, application development and analysis through access to a dedicated imaging scientist. In conjunction with the existing capabilities of the Victor Chang Cardiac Research Institute's BioCORE division, the Preclinical Imaging Facility will provide, develop and support different animal models of cardiovascular disease.

The power of discovery

The Victor Chang Cardiac Research Institute Innovation Centre is heralding a medical research revolution.

Proudly supported by the NSW Government, the Innovation Centre gives researchers access to state-of-the-art equipment and cutting-edge technologies, including two MRI scanners, a series of mass spectrometers, micro-CT, iPSC automated robotics and a cryo-electron microscope.

The Victor Chang Cardiac Research Institute Innovation Centre is pushing the boundaries of knowledge by facilitating a new era of collaboration between researchers across the state and the Asia Pacific, transforming the landscape of cardiovascular research.

Enquire about the Preclinical Imaging Facility

Kimberly Malesky

Head, Preclinical Imaging Facility
Victor Chang Cardiac Research Institute
E k.malesky@victorchang.edu.au

Level 6, Lowy Packer Building
405 Liverpool Street
Darlinghurst NSW 2010
Australia

www.victorchang.edu.au/Innovation-Centre