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Research boost for heart muscle disease

World-leading research into heart muscle disease has been boosted with the Centenary Institute's Associate Professor Mathias Francois and team awarded a National Health and Medical Research Council (NHMRC) Ideas Grant to investigate left ventricular non compaction cardiomyopathy (LVNC).

A heart muscle disease, LVNC is characterised by a poorly developed and weak ventricular cardiac muscle, which compromises heart function and can result in devastating complications that include heart failure, arrhythmia and blood clots.

The Ideas Grant – worth \$1,094,172 – will fund a project that will examine how defects in blood vessel formation, that take place during embryonic development, contributes to LVNC. Also to be investigated, how the molecular cues behind these defects can be used to help determine risk-levels of patients with LVNC cardiac disease to better manage adverse outcomes.

Associate Professor Francois, Head of the Centenary Institute's *David Richmond Laboratory for Cardiovascular Development* said that blood vessels instruct cardiac muscle creation during the embryonic period but that understanding of the cellular origin of LVNC is limited.

“Our new project will help us understand how a molecular switch (the Sox7 protein) – specific to blood vessel cells – governs the development of heart muscle,” Associate Professor Francois said.

“This will further our knowledge of the mechanisms that contribute to LVNC. It will also allow us to discover new biomarkers that underpin adverse cardiac outcomes in LVNC patients. This will ultimately improve LVNC diagnosis aiding clinicians in identifying individuals at high risk and facilitating treatment responses.”

Executive Director at the Centenary Institute, Professor Mathew Vadas AO, welcomed the funding announcement and congratulated Associate Professor Francois on his grant success.

“This exciting project will combine cutting-edge imaging, genomics, proteomics and tissue engineering approaches to decipher the regulatory mechanisms by which blood vessel cells orchestrate the development of heart muscle,” said Professor Vadas.

“The innovative work in this area has the potential to advance scientific knowledge and to improve the lives of those individuals affected by this rare heart condition. I look forward to the study's findings.”

NHRMC Ideas Grants support researchers at all career stages undertaking innovative and creative research projects in any area of health and medical research from discovery to implementation.

[ENDS]

Images (x2):

Associate Professor Mathias Francois

<https://drive.google.com/file/d/1CJTuwk4mdfhnD1VoNhIM0UF0mu82ve6U/view?usp=sharing>

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For all media and interview enquiries, please contact

Tony Crawshaw, Media and Communications Manager, Centenary Institute on 0402 770 403 or email: t.crawshaw@centenary.org.au

About the Centenary Institute

The Centenary Institute is a world-leading independent medical research institute, closely affiliated to the University of Sydney and the Royal Prince Alfred Hospital. Our research focuses on three key areas: cancer, inflammation and cardiovascular disease. Our strength lies in uncovering disease mechanisms and applying this knowledge to improve diagnostics and treatments for patients.

For more information about the Centenary Institute, visit centenary.org.au