MEDIA RELEASE

1st September, 2017

Centenary Institute Medical Innovation Award
2017 Finalists announced!

The finalists in the prestigious Centenary Institute Medical Innovation Awards, who will share in the $36,000 prize pool to support their ground-breaking medical research, have been announced for 2017 and include some of our nation's brightest and most talented young scientists.

The Awards, now in its seventh year, honours the memory of Neil Lawrence and is one of the most prestigious prizes for young, creative and innovative scientists around Australia. Judged by an international panel of adjudicators considered to be in the 0.01 percentile globally, the Award recognises bold young researchers who are taking risks to ask the big questions of today – those questions that have most people saying "that's impossible". It rewards innovative ideas set to make a positive impact on communities, enhancing the nation's health and prosperity.

Every year, the Awards support young Australian scientists who are applying their creative ideas to tackling some of the most chronic diseases (i.e. breast cancer, neurological disease, Hepatitis B virus and more) in order to save thousands of lives globally, protecting future generations.

The Centenary Institute recognises the importance of investing in our Australia's young scientists who will ensure the health and wealth of our nation. 80 per cent of the most significant scientific discoveries for humanity (Nobel laureates) have come from researchers younger than 45 years of age. Since 1983, the proportion of government science funding to younger researchers has more than halved (55 per cent down to 24 per cent).

"Exceptional young scientists can be hard to keep in Australia and we hope this Award will not only celebrate their achievements but also encourage a domestic culture of brilliance in medical research. There are only 20,000 early to mid-career researchers in Australia and only a handful receive funding to test their own creative ideas. The vast majority have to leave research altogether." says the Centenary Institute's Executive Director, Professor Mathew Vadas AO.

The 2017 Winner will be announced at an Awards Ceremony to be compered by media personality, Adam Spencer and held at the Commonwealth Bank's Innovation Lab (11 Harbour Street Sydney), on Thursday, 7th September, with the pleasure of welcoming the Guest of Honour, the Hon Brad Hazzard, MP, NSW Minister for Health and Minister for Medical Research.

The Centenary Institute Medical Innovation Awards would not be possible without the commitment and generosity of the Awards partners Val Morgan and the Lawrence Family, who are partnering with the Awards for the seventh year, and the Commonwealth Bank Private and Thinkable.com.

2017 Finalists (listed in alphabetical order by surname)

Dr Edwin Hawkins, Walter and Eliza Hall Institute of Medical Research
Google Earth imaging of cancer cells in liver tissue

Dr Hawkins' research career has focused on understanding how immune cells and cancers grow, die and differentiate. Recently, Dr Hawkins has developed a ground-breaking system to acquire data on immune and cancer cells at an unprecedented level of resolution.

This project drew inspiration from the way Google Earth innovated how we view and engage with the world we live in, with 3D printed optical windows surgically implanted into bones of living models of disease processes. Using 2-photon microscopy, these optical windows can be used to repeatedly review and re-assess the very same anatomical site in the same living tissue every day over weeks. With this impactful technology we can now visualise in real time, the emergence of individual cancer cells and clones responsible for the deaths of many Australians every year.

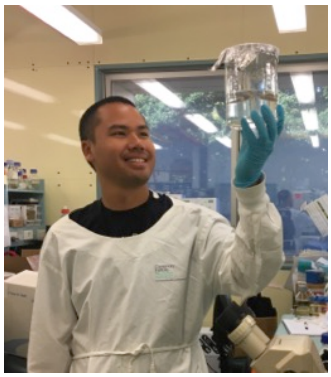
Please follow the link for video footage:
https://www.thinkable.org/submission_entries/jqVLkZ8W

Dr James Hudson, University of Queensland
Making human heart tissue for discovery of new drugs.

Since starting my PhD my goal has been to create human heart tissue from stem cells for cardiac repair. My initial ideology was to implant the engineered human heart tissue in patients with heart failure to restore their heart function and cure those patients – an ideology that was and still is consistent with the stem cell field as a whole. However, I also strongly believe that it is perhaps an even more powerful use of these human heart tissues is for drug discovery applications.

It was discovered in 2011 that mammals can fully regenerate their hearts following injury only in a brief neonatal window, with the regenerative capacity already declining seven days after birth. While many decades of heart research in mice could lead to new regeneration drugs for heart failure, I believe that our human heart tissue may help us to get to this goal more quickly and effectively. My lab is using human heart tissue as a model to study the developmental processes that lead to loss of regenerative capacity of the heart muscle cells so that we can identify drugs that re-activate regeneration in adult hearts and patients with heart failure.

Please follow the link for video footage:
https://www.thinkable.org/submission_entries/R8ED0O3P



Dr Stefan Oehlers, Centenary Institute
Recycling cancer drugs to treat tuberculosis

Tuberculosis (TB) infection is the world's single biggest infectious killer. It is responsible for the deaths of almost two million people every year. One of the reasons we have not been able to eradicate TB is because there have been no new classes of antibiotics approved to treat TB infection in half a century. Compounding the lack of new antibiotics, the bacterium that causes TB, *Mycobacterium tuberculosis*, rapidly becomes resistant to antibiotics.

I was inspired by cancer treatments that starve tumours of oxygen but cutting off their blood supply. I wondered if I could make the environment around the infection so hostile to the bacteria that they would just stop growing. Knowing that the TB bacterium is like a cancer in that it needs oxygen to grow, I used anti-cancer drugs that stop the growth or leakiness of blood vessels around sites of infection. In a world first, I found that these drugs slow infection in animal models of TB.

Please follow the link for video footage:
https://youtu.be/BFZ8isk98SE

Visit https://www.centenary.org.au/cen_news/2017-centenary-institute-medical-innovation-award/ for full project descriptions.

Winners are available for interviews upon request.

Contact: Centenary Institute Media and Communications Manager, Jessica Bowditch, j.bowditch@centenary.org.au, 0421983393.
For more information about Centenary Institute, visit www.centenary.org.au