

Media Alert – Thursday 30th May 2019

ASMR 2019 Queensland Health & Medical Research Awards is proudly supported by the Queensland Government

WINNERS OF THESE PRESTIGIOUS AWARDS WILL BE ANNOUNCED AT THE ASMR MEDICAL RESEARCH WEEK® GALA DINNER ON FRIDAY THE 31st MAY

A 10 minute cancer diagnostic test on a chip, reversing obesity with a drug & improving drug delivery using nanoparticles, Queensland's emerging researchers are changing the landscape of health and medicine!

2019 ASMR Queensland Health & Medical Research Award Finalists:

Clinical Researcher Award Finalists:

Dr Joshua Tobin, Mater Research Institute

Dr Joshua Tobin is a haematology trainee and PhD student investigating new individualised medicines for lymphoma patients. His research has provided the new rationale for clinicians to include assessments of the patients' immune system as a predictor of their potential response to treatment.

Dr Lisa Gillinder, Mater Centre for Neurosciences

Dr Gillinder is the first person to undertake a surgical epilepsy fellowship in Queensland. Her work is the first to link autoimmunity (when the patients' own immune system attacks the body) with nerve cell breakdown in a subgroup of people with epilepsy. This could lead to new treatment options for this unique epilepsy subtype, who often don't respond to conventional therapies.

A/Prof Dan Siskind, Metro South Addiction and Mental Health Service

A/Prof Siskind works clinically as a psychiatrist with people with schizophrenia that are non-responsive to treatment. This is a debilitating disorder that affects one in three adults with schizophrenia. The only antipsychotic licensed for treatment of these people can have transformative benefits, but also cause weight gain and impacts on the heart, leading to non-compliance. A/Prof Siskind is leading a clinical trial to examine the combinations of different drugs to offset these side-effects.

Mid-Career Researcher Award Finalists:

Dr Emanuele Pelosi, Institute for Molecular Biosciences, University of Queensland

Dr Pelosi studies a rare syndrome characterized by absence of fully developed female reproductive organs, as well as kidney and muscle deficiencies. Dr Pelosi has identified novel genes that are abnormal in women with the syndrome and has since developed mouse models to prove they are likely to cause the syndrome. These findings will have direct implications for clear diagnosis and will improve clinical care for affected women.

Dr Ronan Kapetanovic, Institute for Molecular Biosciences, University of Queensland

Dr Kapetanovic's research seeks to understand how immune cells use metal ions as antimicrobial weapons against bacteria. Urinary tract infections are one of the most common bacterial infections of humans, with ~150 million cases globally per year. Dr Kapetanovic's work shows that while zinc poisoning by immune cells normally kills bacteria, a pathogen largely responsible for urinary tract infections is resistant to this and can evade killing. Now, he will investigate how to overcome this to better treat this type of infection.

Dr Denuja Karunakaran, University of Queensland

Obesity is a major public health burden worldwide, associated with chronic low-grade inflammation caused by dysregulated communications between fat cells and the immune system. Dr Karunakaran studies a factor

involved in these communications and has shown that blocking this factor dramatically reduces fat mass and inflammation in an animal model. These findings pave the way for the future application as a diagnostic tool to predict genetic risk of human obesity, and exploiting this factor to develop a novel therapeutic to treat obesity.

Early-Career Researcher Award Finalists:

Dr Jamie Kutasovic, University of Queensland

The spread of breast cancer to reproductive organs is an understudied area. Dr Kutasovic has explored this pattern and found that cancer spread to the ovary or Fallopian tube occurs more commonly younger patients and is likely to be driven by hormones. Understanding this pattern of cancer spread could be important not only for improving survival, but also preserving the future fertility of these young women.

Dr Tianqing Liu, QIMR Berghofer Medical Research Institute

Iron loading disorders, like thalassaemia, are treated with iron chelators to remove excess iron. But they have numerous side effects. Dr Liu's research uses a novel type of extremely small particles (nanoparticles) to carry iron chelators to the organs which are at particularly high risk of iron loading and reducing side effects.

Dr Abu Sina, Australian Institute for Bioengineering & Nanotechnology (AIBN), The University of Queensland

Early diagnosis improves cancer survival rate. But, due to the large variability in cancer types, there is no universal test available that can detect cancer at an early stage. Current diagnostic tools, like biopsy, are invasive and costly. Dr Abu Sina has developed a potential 10-minute universal cancer test that utilizes a unique DNA nano-signature common to all cancers and can detect various cancer types with high specificity and sensitivity. The test has been developed using a novel and minimally invasive approach called interfacial biosensing which utilizes direct interaction of DNA with a bare gold surface to detect cancer. This simple test could revolutionize cancer detection.

Postgraduate Student Researcher Award Finalists:

Aleena Wojcieszek, Mater Research Institute, University of Queensland

With over two million stillborn babies globally every year, parents in subsequent pregnancies have an increased risk of stillbirth and face anxiety and worry about the survival of their baby. This study found that parents often receive extra antenatal visits and ultrasound scans but rarely receive enough emotional support.

Navid T Saidy, Institute of Health and Biomedical Innovation, QUT

Tissue Engineered Heart Valves aim to overcome the disadvantages of current heart valve prosthesis by providing an alternative mechanically stable valve that also supports tissue growth and remodelling. Improved strategies and fabrication technologies are needed in order to facilitate their translation from bench to bedside. A biologically-inspired design and biofabrication strategy aims to embrace mechanical, structural and geometrical complexities of a native heart valve. Advanced 3d printing techniques allowed for the fabrication of highly tuneable and personalized scaffolds for heart valve tissue engineering providing potential functional living heart valves for paediatric patients.

Dr Shuichi Suetani, Queensland Centre for Mental Health Research

Mental disorders that have onset before age 25 and co-morbidities like cardiovascular disease or diabetes, which lead to younger mortality. Using Queensland data consisting of more than 3000 individuals, Dr Suetani found being physically inactive earlier increased the risk of having depression later.

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Abstracts/bios and lay abstracts available from –
<https://asmr.org.au/asmr-mrw/media/>



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