

Media Release - June 8 2016

SOUTH AUSTRALIA – A STATE OF SCIENCE

ASMR Annual SA Scientific Meeting – Adelaide Convention Centre, June 8

Showcasing South Australia's brilliant batch of early career researchers

Packaging up nanoparticle gene therapies to treat cystic fibrosis

Melanie Fuller from Flinders University is using cutting-edge nanoparticle technologies to deliver potentially lifesaving gene therapy to the lungs of cystic fibrosis patients.

Cystic Fibrosis is the most common life threatening genetic disease affecting Australian children. Gene therapy has recently been revealed as a potential lifesaver. Currently, delivery of this therapy to the lungs of cystic fibrosis patients is inefficient as it becomes damaged during administration.

Melanie and her team have developed a packaging system using gold nanoparticles which protects the gene therapy from damage during delivery. The nanoparticle system packages up the therapy in the form of a mist that is administered by inhalation directly into the lungs.

It is hoped that this method will improve the potential of gene therapy to treat or prevent the development of lung disease in children with cystic fibrosis.

PLENARY SPEAKER - Professor Maria Kavallaris

Head of the Tumour Biology and Targeting Program at Children's Cancer Institute and co-Director of the Australian Centre for NanoMedicine at UNSW, Maria's research contributions are internationally regarded and include identifying the mechanisms of action and resistance to anticancer drugs, discovering new protein interactions in cancer and the development of less toxic cancer therapies using nanotechnology

Oils ain't just oils - smart drug delivery for more effective mental health medicines

Antipsychotic medications for the treatment of schizophrenia are not as effective as they could be because they fail to dissolve within the gut and therefore cannot be absorbed across the gastrointestinal lining and into the bloodstream very well. Better treatments for schizophrenia that increase oral absorption and effectiveness are therefore desperately needed.

Since schizophrenia is a lifelong illness with no cure available, tablets or capsules that can be taken orally are the preferred treatment option for patients suffering from mental illness, since they are less invasive than injectable treatments.

Tahnee Dening from the School of Pharmacy & Medical Sciences at the University of South Australia is taking advantage of a phenomenon whereby fats and oils from food can increase the solubility, oral absorption and effectiveness of antipsychotic drugs.

By using smart oil-based formulations, Tahnee has improved the ability of these drugs to dissolve in the watery gastrointestinal environment. Once dissolved, these drugs are more effectively absorbed into the bloodstream. This work offers the potential for enhanced treatment efficacy and improved patient compliance with oral treatment by removing the need for patients to take drugs with food.

Announcement of the prestigious Ross Wishart Award at the meeting!

**Press Passes available
For interviews or photographs,
please contact Dr Joanne Bowen on 0419840885 or
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