

**MEDIA RELEASE Embargoed until 4th June 2012**  
**NEW SOUTH WALES - STATE-OF-THE-ART SCIENCE**  
**ANNUAL ASMR NSW SCIENTIFIC MEETING, JUNE 4**

**Young scientists strut their stuff at the Australia Technology Park today!**

**PRENATAL STRESS AND FETAL BRAIN GROWTH**

**How male and female fetuses react to stress**

There is a very good reason for Mums to be, to relax and chill out! Prenatal mental and emotional stress has been associated with many detrimental perinatal outcomes, particularly those related to fetal brain development. Greer Bennett (Mothers & Babies Research Centre, John Hunter Hospital) and her colleagues have results which suggest that the female fetus will employ a neuroprotective growth adaption to protect brain development while male fetuses, showed detrimental brain development in response to stress.

**ANTI-PSYCHOTIC AND CHOLESTEROL LOWERING DRUGS TO TREAT CANCER**

**Cell studies suggest commonly used drugs may be re-purposed to target specific cancers.**

**PROSTATE CANCER** (PCa) is the most common cancer in Australian men. Epidemiological studies have associated high blood-cholesterol levels with an increased risk of PCa, whilst cholesterol-lowering drugs (statins) reduce the risk of advanced PCa. Furthermore, PCa cells have been found to accumulate large amounts of cholesterol. At the molecular level, signals driving PCa growth (e.g. male sex hormones) also stimulate these cells to accumulate cholesterol. This can be targeted with cholesterol-lowering drugs – could this improve current treatment strategies? James Krycer, University of NSW

**BRAIN CANCER** – Glioblastoma is a highly aggressive and invasive type of brain cancer. Nirmani Wijenayake and colleagues from the University of NSW have demonstrated that both antipsychotics and statins are cytotoxic to these brain cancer cells and have great potential to act as chemotherapeutics.

**TARGETING ANTIOXIDANT DRUGS TO TREAT CARDIOVASCULAR DISEASE**

**Re-thinking the traditional approach**

Antioxidants can reduce the severity of cardiovascular disease. Myeloperoxidase causes oxidative stress and is one of the mechanisms underpinning cardiovascular disease. Sophie Maiocchi and the team from UNSW have found a way to target a type of antioxidant, called nitroxides, to prevent myeloperoxidase-induced damage in the blood vessels and cardiovascular system. Data indicates these nitroxide compounds could be developed as novel therapeutic targets to treat cardiovascular disease.

**NOVEL MOLECULES IDENTIFIED FOR PNEUMONIA VACCINE DEVELOPMENT**

**Pneumonia protection for the young and the elderly**

Researchers at the i3 Institute and University of Technology Sydney have identified new candidates that may be targeted in anti-pneumonia vaccines. Re-thinking current dogma that proteins on the cell surface are the most-likely candidates for vaccine development, PhD student Michael Widjaja detected proteins on the inside of the cell that could be used for diagnosis/vaccine development instead. Targeting these new proteins could reduce the incidence or alleviate the severity of pneumonia - particularly in children and the elderly.

Interview and photo opportunities

Contact: Rosanna Chung on 0451 822 137

Catherine West – 0415 928 211

**Major National Sponsors of ASMR Medical Research Week®**

The ASMR Medical Research Week® undertaken by  
The Australian Society for Medical Research  
is supported by funding from

The Australian Government Department of Health and Ageing



Australian Government

National Health and Medical Research Council