

University celebrates Young Scientists

Four University of Auckland students have been chosen as outstanding scientists in this year's MacDiarmid Young Scientist of the Year awards including the overall winner of the competition.

Jessie Jacobsen, a PhD student in the Department of Anatomy with Radiology, has been named New Zealand's Young Scientist of the Year for her work on Huntington's Disease. Other University winners include James Russell in Statistics, Peter Brown in Biological Sciences and Sarah Cox in Bioengineering.

Jessie studies the progression of Huntington's Disease in sheep, research that will allow scientists to develop better drugs to treat Huntington's and other neurological disorders. As winner of the MacDiarmid Young Scientist of the Year title she will receive a trip to the UK's British Association Festival of Science and \$10,000.

James Russell, runner up in the competition and winner of the Understanding Planet Earth category, has just completed a PhD in Biology and Statistics. His research involves studying the behaviour of rats that reinvade islands to allow the Department of Conservation to create better biosecurity procedures to protect endangered animals released on island sanctuaries.

Peter Brown is a student of the Maurice Wilkins Centre based at the School of Biological Sciences, and runner up in the Advancing Human Health category to winner Jessie Jacobsen. Peter's research has focused on identifying the structure of the MIOX protein which may provide a new way to treat diabetes.

Engineering student Sarah Cox, winner of the Masters Awards, conducts research into anatomically correct virtual buttocks at the Bioengineering Institute. Her research looks at what happens to the buttocks when a person sits, to help with the design of office chairs.

"The MacDiarmid Awards recognises the achievements of our up and coming scientists, and is an excellent vehicle to highlight the dedication and commitment of our students," says Professor Tom Barnes, Deputy Vice Chancellor (Research). "The University is proud to once again be the home of the Young Scientist of the Year and we congratulate all our entrants and wish them well in continuing in their scientific pursuits."

The MacDiarmid Young Scientists of the Year Awards are presented by the Foundation of Research, Science and Technology. The awards are designed to recognise excellent research, science and technology while also promoting the importance of good science communication. In 2007, 33 of the 120 entries were from University of Auckland students.

Profile – Peter Brown

Peter Brown will soon be graduating with a PhD in Biological Sciences. Affiliated to the Maurice Wilkins Centre, the Centre for Research Excellence looking at developing treatments for serious disease, Peter's PhD research into a protein implicated in diabetes has also awarded him a runner up position at this year's MacDiarmid Young Scientist of the Year awards.

Peter's research looks at the protein MIOX, an enzyme that breaks down the sugar inositol. In diabetes, levels of MIOX rise and increased metabolism of inositol causes an increase in sugar levels in the blood, a symptom of the disease.



Peter's PhD involved solving and analysing the structure of MIOX. By understanding this structure, biologists can undertake rational drug design to create a molecule that blocks the activity of MIOX.

Similarly to a lock and key, inositol fits into an area of the MIOX protein and is then processed. By creating a compound that fits and blocks the MIOX lock, inositol cannot be broken down. This makes it an important drug target for developing potential treatments for diabetes.

Based on Peter's structure work, the University is now working with IRL to design compounds that block the MIOX activity. A selection of these will then be analysed for suitability as a new diabetes drug.