

## Irene Ballagh



One of the key factors that drew Irene Ballagh to apply for the International Fulbright Science and Technology Award was her fond memories of the eight months her family spent in Colorado when she was 4 years old. Her memory of America was a land of adventures and giant deer filled with museums containing dinosaur bones and space shuttles, and just about everything else a little girl could wish for. As a second generation Fulbrighter (her father Robert Ballagh was awarded a Fulbright scholarship to complete a PhD in Physics at the University of Colorado in Boulder in 1973), she was also aware of the amazing opportunities and lasting ties that could be had by studying in the U.S.

Back in New Zealand, Irene decided early on that she wanted to conduct research but choosing a particular field would take longer. In high school, she was a member of the New Zealand Chemistry Olympiad team but found her interests lay more toward understanding human behavior and the brain. For her undergraduate studies at the University of Otago in Dunedin, NZ, Irene originally chose to major in history and biochemistry. Neuroscience, the study of the brain, provided a way of uniting her interests in biology and behavior into a single, though broad, discipline. In 2006, she graduated with a first class Honors degree in Neuroscience as well as a Sir George Grey Prestige Scholarship in Science and a Dostoevsky Prize in Psychology.

Memory also forms the basis for Irene's research as she intends to pursue research into the processes of neural plasticity, or how the brain changes when we learn or remember something. The idea that something as complicated as a piece of poetry, the face of a loved one, or even navigating through the subway system can be stored by changing the weights and patterns of connections between neurons is one that has long held fascination for her.

Columbia University, - home of the scientists that quite literally wrote the book on the brain and memory – has provided a truly amazing environment for Irene's further study. As part of the Ph.D. program in Neurobiology and Behavior, Irene has been relishing the opportunity to see and take part in a diverse range of neuroscience research and witness firsthand the development of some cutting edge techniques in the U.S.