Garvan Institute of Medical Research

Leaders in Science & Society

GARVAN INSTITUTE
Breakthrough Medical Research

Prof Michelle Simmons

Director, ARC Centre of Excellence for Quantum Computation and Communication Technology
School of Physics, UNSW Sydney

"The development of a silicon-based quantum computer"

Monday 4 September 2017 12PM, AUDITORIUM

Host: Prof Chris Goodnow

Professor Simmons is an Australian Research Council Laureate Fellow & Director of the Centre of Excellence for Quantum Computation and Communication Technology. She has pioneered unique technologies internationally to build electronic devices in silicon at the atomic scale, including the world's smallest transistor, the narrowest conducting wires and the first transistor where a single atom controls its operation. This work opens up the prospect of developing a silicon-based quantum computer: a powerful new form of computing with the potential to transform information processing. Professor Simmons is one of a handful of researchers in Australia to have twice received a Federation Fellowship and now a Laureate Fellowship, the Australian Research Council's most prestigious award of this kind. She has won both the Pawsey Medal (2006) and Lyle Medal (2015) from the Australian Academy of Science for outstanding research in physics and was, upon her appointment, one of the youngest fellows of this Academy. She was named Scientist of the Year by the New South Wales Government in 2012 and in 2014 became one of only a few Australians inducted into the American Academy of Arts and Sciences. In 2015 she was awarded the CSIRO Eureka Prize for Leadership in Science and in 2016 the Foresight Institute Feynman Prize in Nanotechnology for her work in 'the new field of atomic-electronics, which she created. She is Editor-in-Chief of Nature Quantum Information and was recently named the 2017 L'ORÉAL-UNESCO Asia-Pacific Laureate in the Physical Sciences.