



The Hon Andrew Stoner MP

Deputy Premier of NSW

Minister for Trade and Investment

Minister for Regional Infrastructure and Services

MEDIA RELEASE

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QUANTUM COMPUTING TRAIL-BLAZER IS THE 2011 NSW SCIENTIST OF THE YEAR

A University of New South Wales Professor of Physics and mother of three young children has been named the 2011 NSW Scientist of the Year for pioneering the development of quantum computers.

Deputy Premier and Minister for Trade and Investment Andrew Stoner said Scientia Professor Michelle Simmons, who leads the Australian Research Council Centre of Excellence for Quantum Computation and Communication Technology, is pioneering the development of the world's first quantum computer.

"Professor Simmons' work represents a major technological challenge and opens the door to developing a silicon-based quantum computer, a powerful new form of computing that promises to transform industries dependent upon information processing," Mr Stoner said.

"The NSW Scientist of the Year Award is the State's most prestigious science prize, recognising high calibre research by our top scientists and engineers, and Professor Simmons is a worthy winner of the award.

"Quantum computers will be able to solve our biggest problems much faster than even the fastest computers operating today.

"Professor Simmons' scientific vision and dedication to her field is exceptional. She is an amazing example of the high calibre of scientists and engineers working at our universities and research organisations across NSW," he said.

Professor Simmons said she was honoured to receive the NSW Scientist of the Year Award.

"I'm pleased that this award will bring recognition to the work of the whole team, many of whom have been working on this project for years," Professor Simmons said.

"Quantum computing is not easy science – it takes many different skill sets. Here at UNSW we can manipulate individual atoms to create the world's smallest electronic devices. We are international leaders in this field. There is no-one else doing what we are doing and I am proud to lead this research effort," she said.

Today's computers run on a binary system where transistors are placed on silicon chips, which have limited processing ability. Quantum computing places single atoms on silicon chips, allowing new opportunities for processing power which will enable more complex operations.

Professor Simmons moved to Sydney from Cambridge ten years ago and has three children under the age of eight.

“I felt there was an opportunity to do some phenomenally exciting research here. It was the best move I ever made,” Professor Simmons said.

“I think it’s important for women to know they can have a family and a career. It’s not easy, but it is possible and it’s incredibly rewarding,” she said.

The ARC Centre for Quantum Computation and Communication Technology is an international research effort, funded by the Australian Research Council, NSW Government, US Army Research Office and the Semiconductor Research Corporation and whose partners include the Australian Department of Defence, IBM and Toshiba.

Professor Simmons was one of twelve scientists, engineers and teachers who were honoured at the 2011 NSW Science and Engineering Awards held at NSW Government House on Wednesday evening. Professor Simmons wins \$55,000 for her achievement.

The NSW Government is working with Industry Taskforces to develop Industry Action Plans to position key sectors of the State's economy for the future, as part of the *NSW 2021* strategic plan. The work and contribution of the research and engineering community is fundamental to the sectors being targeted.

The first sectors being covered are the Digital Economy, Manufacturing, Professional Services, Tourism and Events, and International Education and Research.

For more information on Professor Simmons’s work go to <http://www.youtube.com/watch?v=jR7yPfmtAg> or visit www.cqc2t.org.

For more information on the awards visit www.business.nsw.gov.au/scienceawards