

FREE PUBLIC LECTURE

Powerhouse Museum, Sydney,

2006 Einstein Lecture: Einstein's revolution: quantum and relativity technology for the 21st Century

Prof. David Jamieson

School of Physics, University of Melbourne

Monday 23rd October @ 6.30 PM

Summary of talk: The revolutionary ideas put forward by Albert Einstein one hundred years ago are very counter intuitive yet immensely successful at describing the physical world. In the 21st century, these ideas are forming the basis of new and useful technologies. Einstein's theory of relativity has already given us the global positioning system and will drive the new Melbourne synchrotron. But his most revolutionary idea, of the light quantum, has led to the concept for a radical new type of computer that uses the strange rules of quantum mechanics to process information. Successful development of this and other quantum technologies requires overcoming formidable scientific and technical obstacles. We will need to manipulate and interrogate single atoms with unprecedented precision and it is likely the theory of relativity will play an important role.

This lecture looks at the emergence of quantum and relativity technology and how we are building the first quantum machines.

Brief Biography of the Speaker: David Jamieson is the Director of the Melbourne node of the Australian Research Council Centre of Excellence for Quantum Computer Technology. In this Centre he works closely with researchers from the University of New South Wales and elsewhere on new ways of storing and processing information using the laws of quantum mechanics. His research work is in the field of the technology and applications of focused ion beams, especially the development of methods of using single ions to analyse and fabricate nanostructures in silicon and diamond.

Lecture Details:

Date: Monday 23th October 2006

Venue: Coles Theatre

Powerhouse Museum

500 Harris St Ultimo

Drinks and Nibbles: 6:00 – 6:30 PM

Lecture Time: 6:30 PM - 7:30 PM

Cost: Free

Event sponsored by:

The Australian Institute of Physics – NSW Branch.
Powerhouse Museum, Sydney.