Physics Schools Xmas Lectures

Taliesin Theatre · Singleton Campus · Swansea University

Monday 3rd & Tuesday 4th December

Sophie Shermer, Associate Professor, Swansea University

Control of Quantum Systems: From spintronics to medical imaging and beyond

I will take you on a brief journey of my passion for quantum systems and control. Quantum effects are often hidden but they are everywhere around us. Control makes physics work for us from satellite guidance systems to robotics to microcontrollers that are everywhere. Combining both is no easy task as quantum systems can behave in strange ways and to control them we must learn to speak 'quantum'. However, there is huge potential for new technology and applications from devices using quantum logic to quantum sensors and new techniques for medical imaging that give us a window into what's happening inside the body in a painless, non-invasive manner.

Sophie Shermer
Associate Professor – Swansea University

Sophie graduated from the University of Oregon with a PhD in Mathematics. After a short stint at the Open University, she joined the University of Cambridge as a Cambridge-MIT fellow in 2002. In 2006 she was awarded an EPSRC Advanced Research Fellowship, and in 2011 she joined Swansea University as a senior lecturer in Physics. She has also held visiting positions abroad including a Marie Curie Visiting Professorship at the University of Kuopio and as a KITP visiting scientist at UCSB

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Prifysgol Abertawe