Brane world models in string theory suggest that our universe is a slice, or ‘brane’, of a higher-dimensional space-time. In this talk we will discuss why one consequence of these models is that copious numbers of mini black holes may be formed by collisions at the Large Hadron Collider (LHC) at CERN. We will describe how these mini black holes are created, and what happens to them once they have been produced. In particular, we discuss why these black holes will not swallow up the entire Earth.

Members are encouraged to join the speaker and members of the Branch Committee for dinner following the talk at a local restaurant. In order to assist with table reservations please contact the Honorary Secretary (email below) by Friday 13th of August.
About the Speaker:

Elizabeth Winstanley was born in Wigan, Lancashire and was educated at Abbey Gate College near Chester, both in the north of England. At school she harboured an ambition to be Governor of the Bank of England, but her academic interests lay in physics and mathematics. She decided to study mathematics at university, and obtained an MA in mathematics from St. Hugh's College, Oxford University. By now she had changed her mind about becoming Governor of the Bank of England, and wished to study physics further, completing a DPhil in theoretical physics at Oxford in 1996. After her doctoral studies, she was appointed as Fellow and Lecturer in Applied Mathematics at Oriel College, Oxford University, teaching a wide range of mathematics and theoretical physics courses. In September 2000, she was appointed as a Lecturer in the Department of Applied Mathematics at the University of Sheffield, where she has worked ever since. She has worked her way up the academic ladder at Sheffield, and was promoted to Professor of Mathematical Physics in January 2009.

Professor Winstanley's research interests lie in general relativity, quantum gravity and quantum field theory in curved space-time. Her research focuses on the physics of black holes, particularly “hairy” (and more recently, “furry”) black holes in general relativity and the Hawking radiation of black holes as might be produced at the Large Hadron Collider at CERN in Switzerland. The latter topic will form the basis of many of her lectures in Australia. She maintains a keen interest in developments in mathematics and science education, serving on a number of national mathematics education committees in the UK. She is a past-chair of the Gravitational Physics Group of the UK Institute of Physics and has recently been a member of the Council of the London Mathematical Society, the UK’s learned society for mathematics. Apart from physics, she enjoys watching sport, particularly cricket and rugby league, and has a broad taste in music, everything from Rachmaninov to Radiohead.