

The Large Hadron Collider: Revealing the Fundamental Nature of Our World

Professor Allan Clark,
University of Geneva and CERN, Switzerland



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Rory Spence Lecture Theatre, School of Architecture & Design
Invermay Road, University of Tasmania, Inveresk Campus

ABSTRACT:

In a 27 kilometre-long circular tunnel beneath the Franco-Swiss border sits the world's largest physics experiment: the Large Hadron Collider, or LHC. This experiment aims to uncover some of the remaining secrets of our Universe, illuminating the nature of the fundamental forces and particles that make up our world. This talk will outline the Standard Model, currently our best physical theory of matter and forces, and then describe some of the first physics results from colliding protons close to the speed of light inside the Large Hadron Collider.

SPEAKER PROFILE:

Allan Geoffrey Clark grew up in Tasmania. He graduated in 1968 from the University of Tasmania with a Bachelor of Science with First Class Honours in Physics. He then went on to gain his PhD at the University of Oxford, UK. Following completion of his Doctorate he worked in the UK at the Rutherford Laboratory at Chilton. Professor Clark first became associated with CERN in 1976 when he joined a team of physicists there. After 11 years at CERN he spent two years working at the Fermi National Accelerator Laboratory, Batavia, USA. In 1989 he was appointed Professor of Physics at the University of Geneva and since 1998 he has served as Director of the Department of Nuclear and Particle Physics. In 2005 Professor Clark became an Honorary Professorial Fellow at the Physics Department at the University of Melbourne. He has over the years served on many advisory panels, including the European Committee for Future Accelerators and the Swiss Institute of Particle Physics where he was the founding Chair.

Professor Clark's research activities have concentrated on the collision of hadrons (mostly protons or anti-protons) at the highest possible energies, using particle accelerators. He has been a member of several experimental teams that have made major contributions to our understanding of particle interactions including a team which co-identified the W and Z bosons at the CERN proton-antiproton collider, the CDF experiment that identified the top quark at the Fermilab, and the ATLAS experiment which is now collecting data at the CERN Large Hadron Collider in Geneva. His research at ATLAS aims to understand the limits and possible extensions of the so-called Standard Model of fundamental interactions.

Professor Allan Clark was awarded degree of Doctor Honoris Causa of the University of Tasmania in 2007.

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