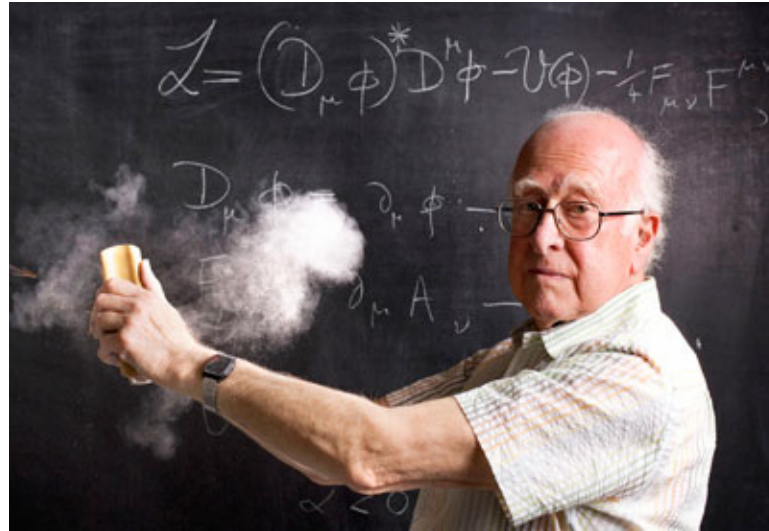


Peter Higgs at 90: A Collection of Related Images



Peter Higgs

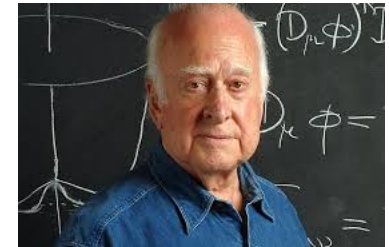
Peter Higgs is a theoretical physicist. In 1964 he developed what has become known as the Higgs Mechanism. This included the prediction of a new particle, the Higgs boson, finally discovered in 2012. Peter was awarded the Nobel prize in physics in 2013.



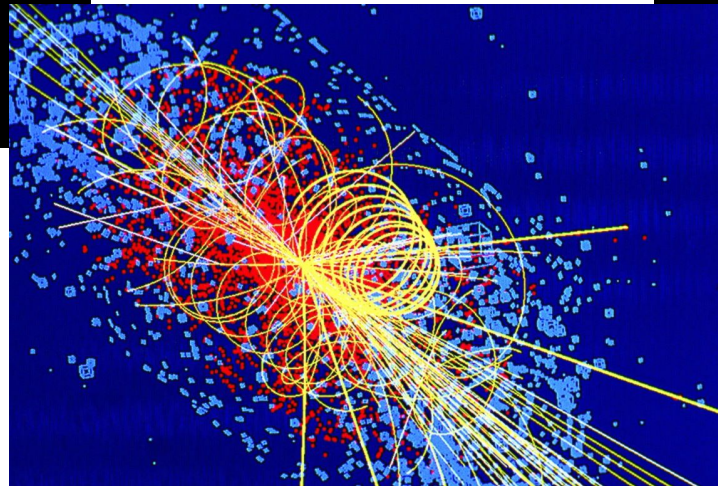
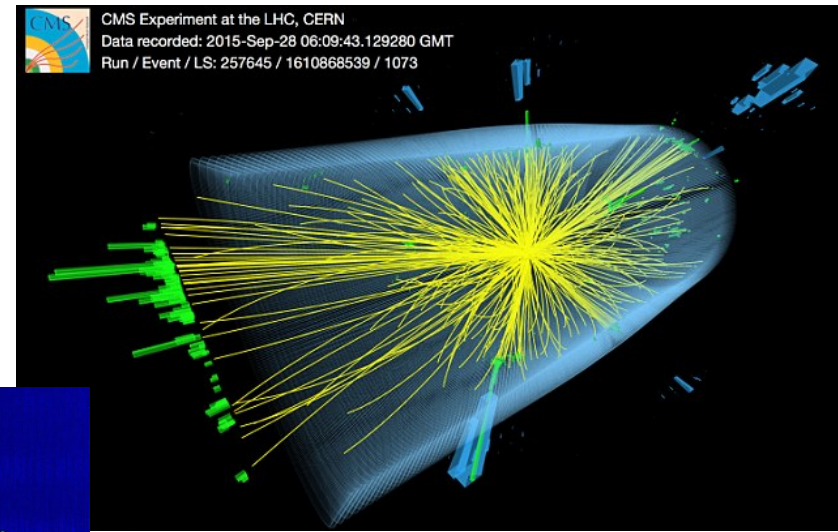
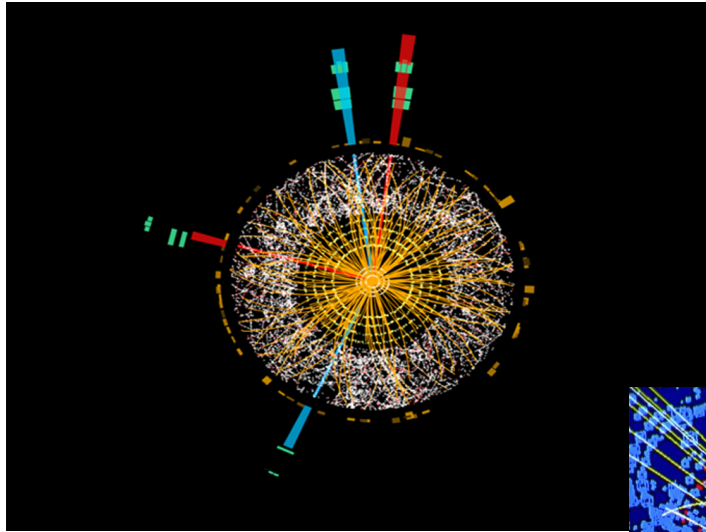
1964



2012 with François Englert with whom he shared the Nobel Prize



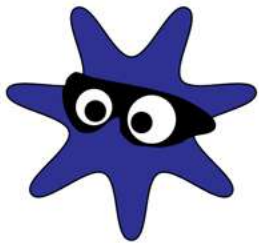
The Higgs Boson



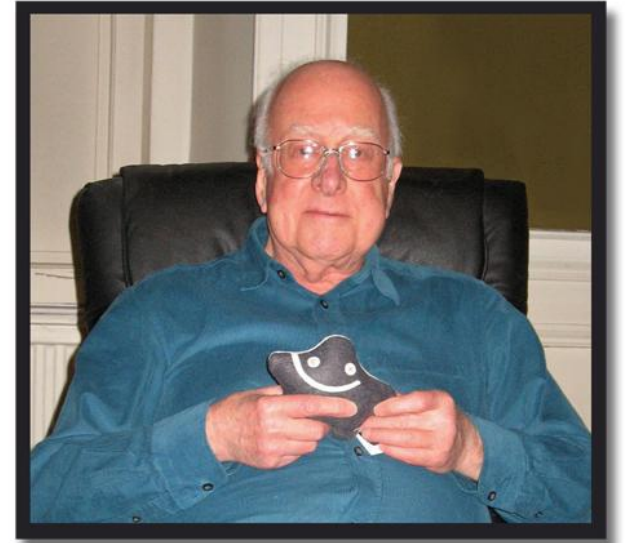
The Higgs Boson was discovered in 2012. It only exists for a fraction of a second and then decays to other particles. The tracks left behind can look like the images above: lines and circles coming from a point.

The Higgs Boson

Others have taken a more light-hearted view of what the Higgs boson may look like!



ParticleZoo.net



Credit: Jennifer Harding-Edgar

The Higgs Potential

A key part of Peter Higgs' work is the so-called "Higgs Potential" – the important point is that lowest points are in a circle away from the centre. It has been called the "Mexican Hat" potential because of its distinctive shape.

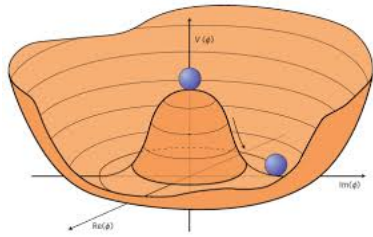


Image: CERN

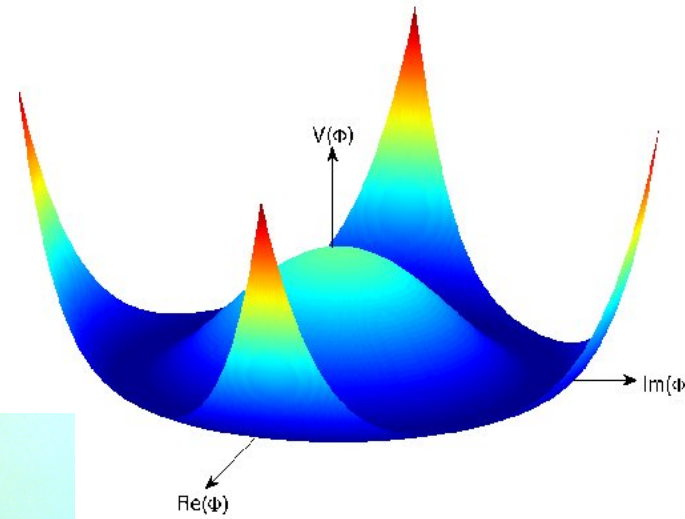


Image: Suat Dengiz



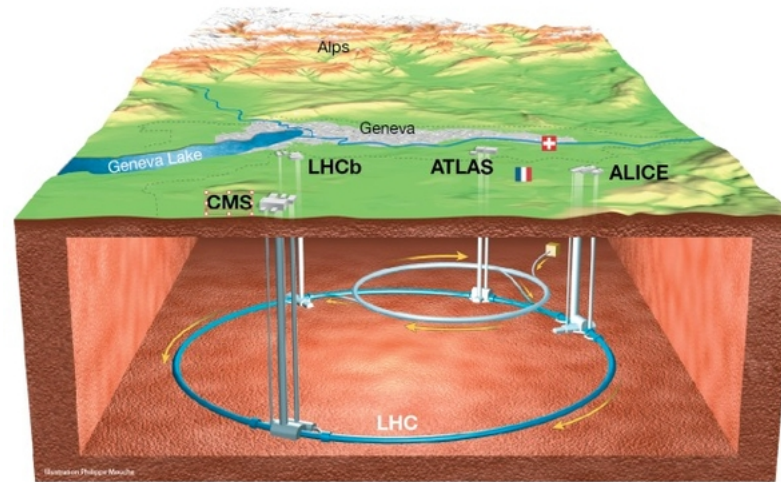
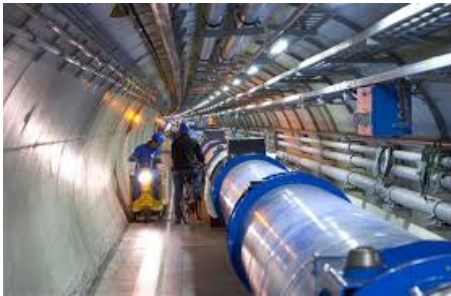
Image: WigtonPhysics



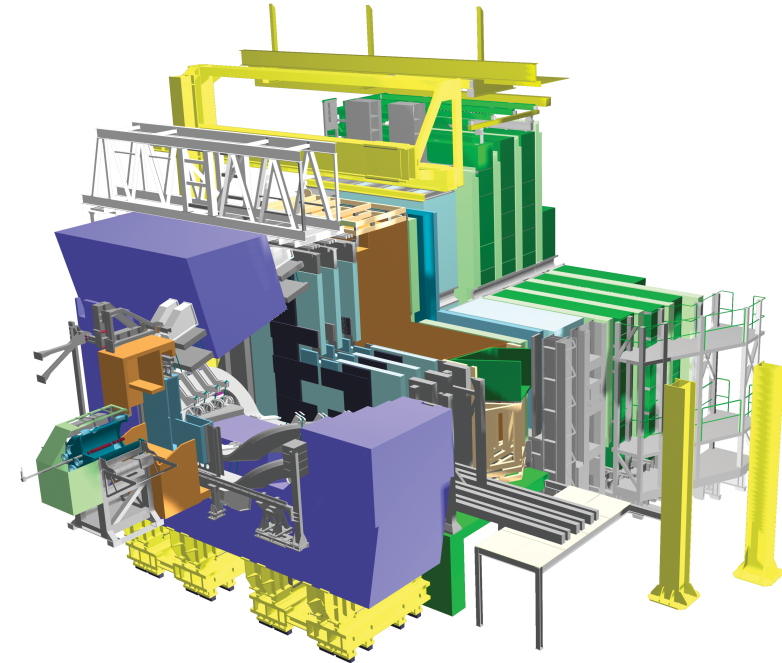
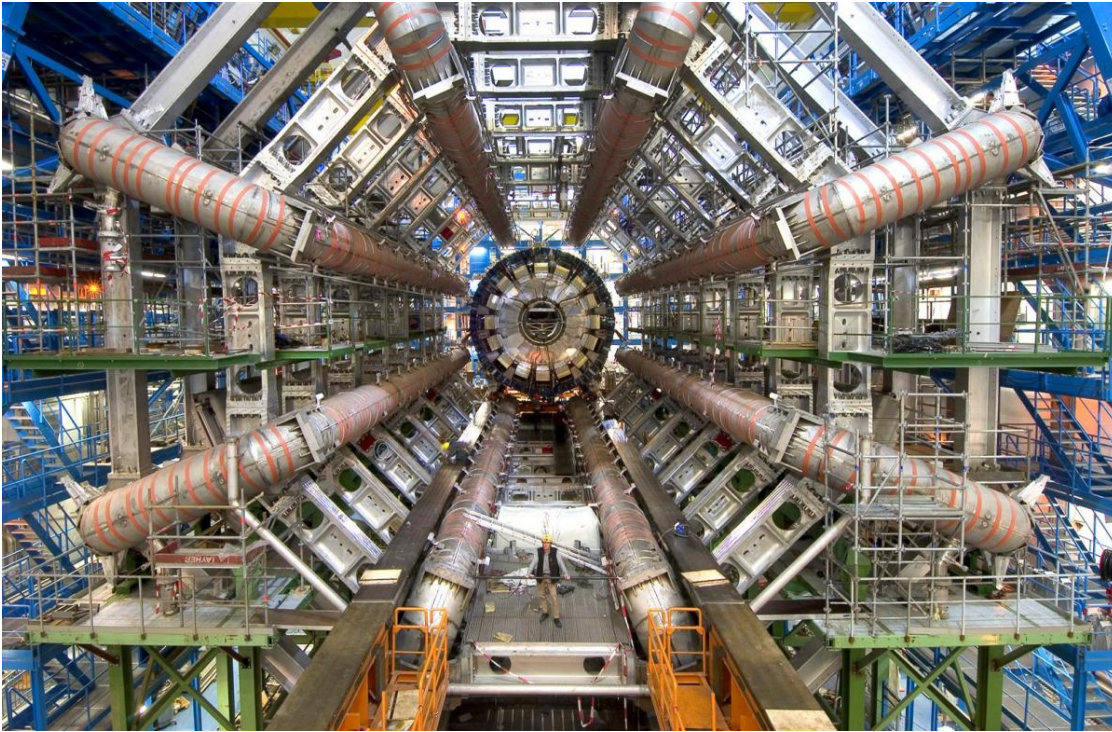
Image: clipart-library.com

The LHC

The Higgs boson was discovered at a massive experiment called the Large Hadron Collider or LHC. It is a 27km circular tunnel at the Swiss/French border. It collides particles called protons at very high energies.



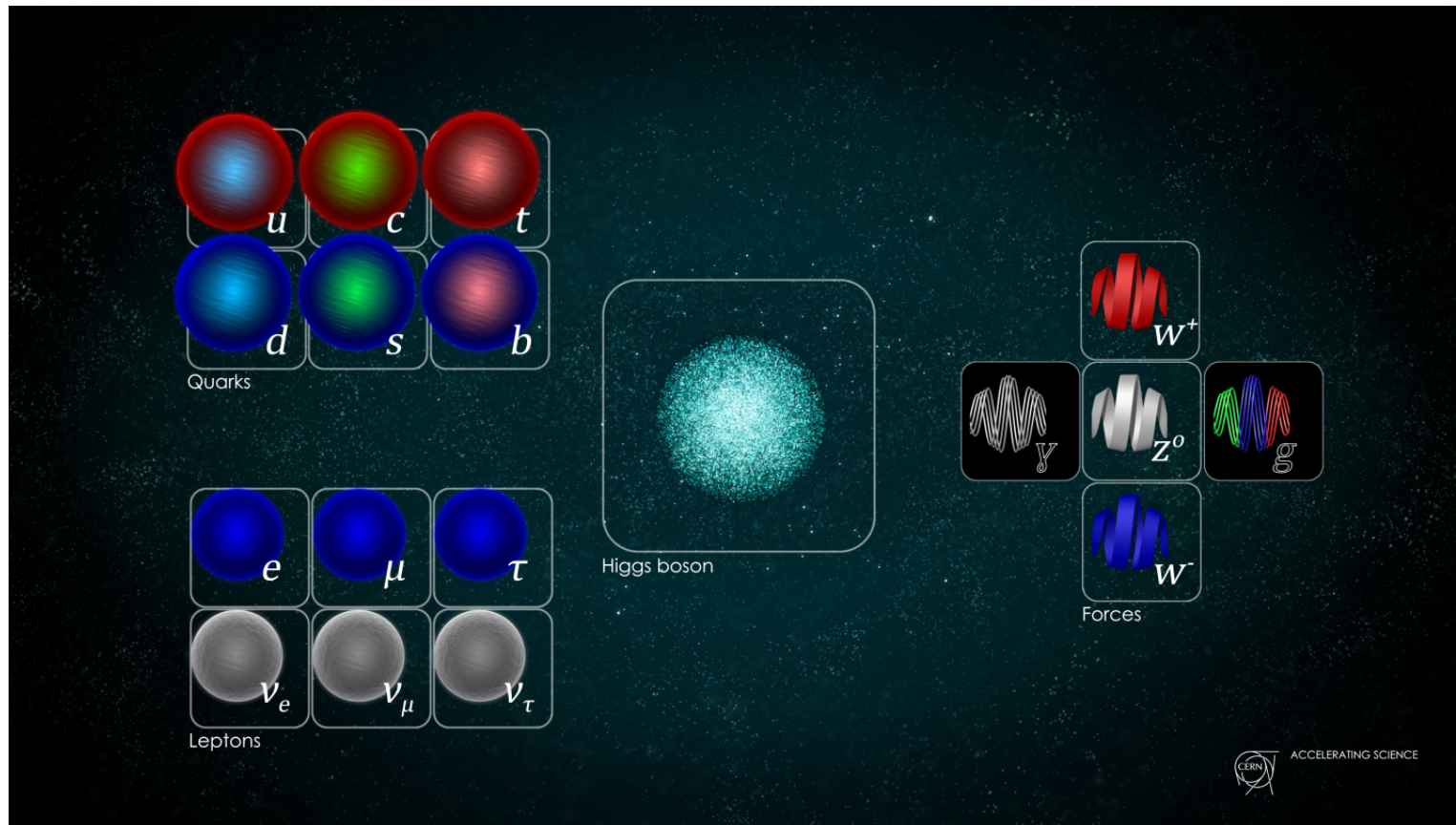
LHC Detectors



Particle tracks are seen in massive cameras or detectors which are as big as large buildings. At Edinburgh University we work on ATLAS (left) and LHCb (right). Spot the person in front of ATLAS for scale!

The Standard Model of Particles

The Higgs boson (middle) is just one of the particles we know exist at tiny scales



Particlezoo.net

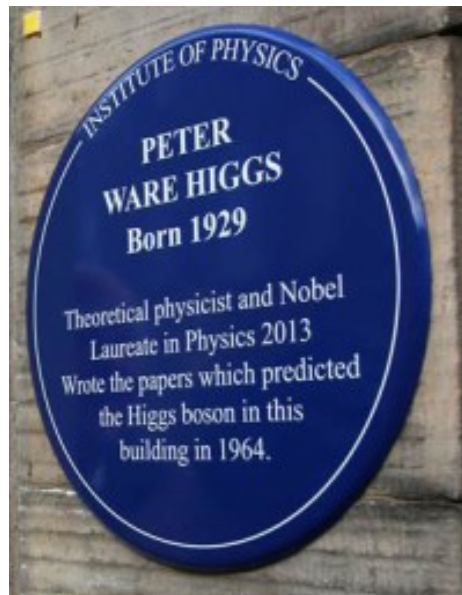
Image: Daniel Dominguez/CERN

Edinburgh

Peter Higgs moved to Edinburgh in 1960 where he lectured physics at the University of Edinburgh until he retired in 1996. He still lives in the city.



This blue plaque is displayed in Roxburgh St, where he wrote his most famous papers



Peter Higgs received the Edinburgh Award in 2011. These handprints are outside the city chambers.

Useful Links

You may find the following websites useful for physics activities and classroom resources

- [ATLAS Primary School resources](#)
- [CERN Key Achievements](#)
- [STFC Public Engagement](#)
- [particleadventure.org](#)
- [New York Times cartoon explanation of the Higgs Mechanism](#)

Any questions? Please contact Jenni Smillie: j.m.smillie@ed.ac.uk