

**Title:** The Higgs Saga at LEP

**Lecturer:** Dr WELLS, P

**Date and Times:** 2<sup>nd</sup> August at 09:15

**Summary of the proposed talk:**

The Higgs Boson plays a crucial role in the Standard Model, and this lecture is about the search for the Higgs at LEP, especially in the last year of LEP running, at the highest  $e^+e^-$  collision energies. The experimental signature for Higgs decays has to be picked out from all the other Standard Model processes. The debate on whether to extend the LEP running after a hint of Higgs events was seen gave a nail biting finish to the LEP programme.

**Prerequisite knowledge and references**

The lecture will be much easier to understand for students who have followed courses on the Standard Model and on experimental techniques. However, I will give a reminder of the existing constraints on the Higgs mass, and will explain the main production and decay channels, the experimental techniques used to pick out Higgs decays (especially b tagging) and the statistical methods used to assess the significance of the event sample selected.

## Biography

### Dr Pippa Wells

**1986:** She first came to CERN as a Summer Student in 1986. She did my PhD on the UA2 experiment at the CERN SPS ppbar collider, on the search for the top quark.

**1990:** She then joined the OPAL experiment at LEP, and made electroweak measurements, especially using heavy flavours.

**1996 and 1997:** She was LEP Physics Coordinator, liaising between the experiments and the LEP accelerator groups. During this time, she was also closely involved in the calibration of the LEP beam energy - a crucial ingredient of the electroweak measurements.

**Today:** She is still working on OPAL, finalising various LEP physics analyses, and is also part of the team building the Inner Detector of the ATLAS experiment, which will take data at the LHC in 2007.