

Title: Trigger and Data Acquisition Systems

Lecturer: Dr SPHICAS, P

Date and Times: 3<sup>rd</sup> August at 09:15  
4<sup>th</sup> August at 09:15

### **Summary of the proposed talk**

We will review the main physics and operational requirements on the Trigger and Data Acquisition (DAQ) systems of the LHC experiments. A description of the architecture of the various systems, the motivation of each alternative and the conceptual design of each filtering stage will be discussed. We will then turn to a description of the major elements of the three distinct sub-systems, namely the Level-1 trigger, the DAQ with its event-building and overall control and monitor, and finally the High-Level trigger system and the online processor farms. The thrust of the two lectures will be to provide a "broad brush" picture of the functionality of these systems.

### **Prerequisite knowledge and references**

none

### **Dr Paris Sphicas**

PhD work on the UA1 experiment.

Continued on UA1 as a CERN scientific associate, then joined CDF as a Fermilab Wilson Fellow.

Joined the MIT faculty in 1991 as assistant, then associate and eventually full professor and continued work on CDF until 2001.

He is currently with CERN and is also a professor of physics at the University of Athens.

He has been working on the CMS experiment since 1994, working on trigger and data acquisition systems.

He is also the physics coordinator of the experiment.