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## Lecture 2: DAQ - Filtering Data from 1 PB/s to 600 MB/s <sup>[1]</sup>

**Date:**

Thursday, 7 July, 2016 - 15:00 to 16:30

**Location:**

[31-3-004 - IT Amphitheatre](#) <sup>[2]</sup>

Brief description:

? This is the story of the physics signal from the detector to tape

? The level is undergraduate and targeted at non-specialist students (originally developed for physicists)

? The aim is to explain important concepts and terminology

? We will discuss electronics, trigger, data acquisition and related computing

? Topics are related, no 100% separation between the 3

? Trigger & DAQ do not live in isolation: context and more details for example in

? The ISOTDAQ school: [http://isotdaq.web.cern.c](http://isotdaq.web.cern.ch/isotdaq/isotdaq/Home.html) <sup>[3]</sup> h/isotdaq/isotdaq/Home. html

? The CERN summer-student lecture programme: [http://summertimetable.web.cern.ch/su](http://summertimetable.web.cern.ch/summer-timetable/) <sup>[4]</sup> mmer-timetable/

Speaker's short bio: Niko Neufeld was born and studied in Austria. He holds a degree in engineering physics from the University of Technology in Vienna Austria and a PhD in particle physics. Since 2000 he has been working in the field of high-speed data acquisition and embedded processing. He has co-designed the data acquisition system of the LHCb experiment, a facility to study the minute differences between matter and anti-matter sifting through almost 70 Gigabytes of data / second. He is now in charge of the upgrade of the LHCb DAQ, which will increase the data-rate by almost a factor 50. Mr. Neufeld has published

on numerous topics of high-speed networking, physics data-processing and embedded systems. He is a staff scientist in the experimental physics department at CERN.

**Indico or other event webpage:**

[For more information about the event](#) <sup>[5]</sup>

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**Links**

- [1] <http://test-static-05.web.cern.ch/news/lecture-2-daq-filtering-data-1-pbs-600-mbs>
- [2] <https://maps.cern.ch/mapsearch/mapsearch.htm?n=%5B%2731/3-004%27%5D>
- [3] <http://isotdaq.web.cern.c>
- [4] <http://summertimetable.web.cern.ch/su>
- [5] <http://indico.cern.ch/event/537128/>