

# Summer Student Online Lecture Programme 2020

Q&A Session on Electronics DAQ and Triggers – 13 July 2020

Speaker: Roberto Ferrari

Questions in advance

# Question(s) #1 (Erdene)

- Would you explain more about the histogram bin?

## Question(s) #2 (Beatriz)

- 1) Could you be more specific on how a low pass filter improves the SNR and how the high-pass filter improves high rate performance?
- 2) In the first lecture, on slide 30, you showed a graph with the signal spectrum. What is the quantity  $dN/dQ$  in the y-axis?
- 3) What would be a context where multi-hit TDC is used?
- 4) What exactly is trigger latency?
- 5) Both QCD and ADC receive the signal pulse, a voltage, and digitize it. What is the difference within them for the QDC to be able to measure charge and for the ADC to measure voltage? What is the difference in their output?
- 6) If the particle energy is proportional to the current it generates in the detector, shouldn't you lose the particle energy information when amplifying the signal with the amplifier?