

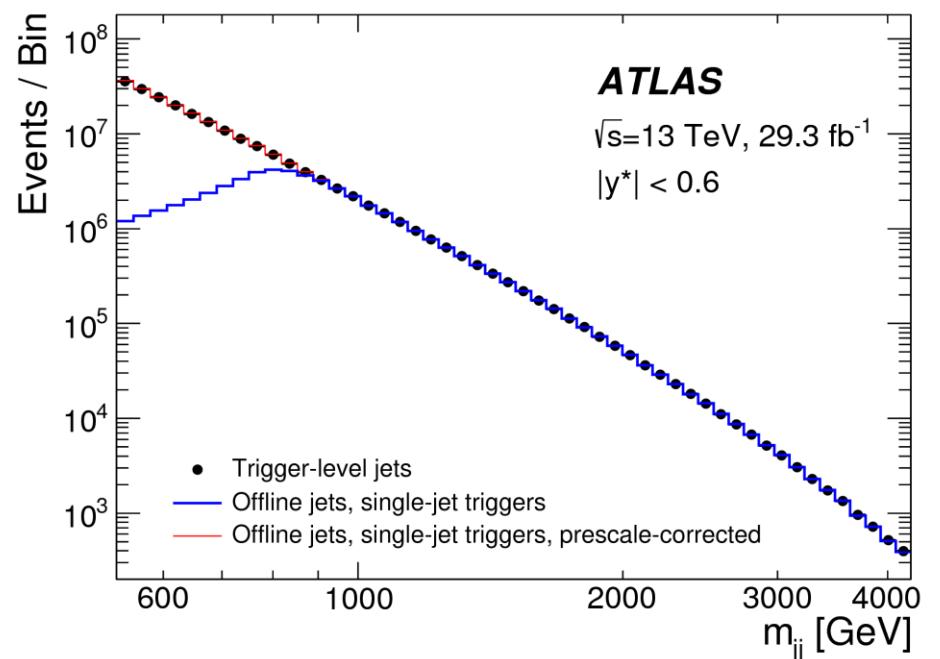


## Real-time analysis: how to make the most of LHC data.

**Tuesday, 19 February 2019, DESY Auditorium, 16:45 h**

**Caterina Doglioni (*Lund Univ.*)**

The Large Hadron Collider collides protons up to 30 million times a second, and provides its experiments with an enormous amount of data. The trigger systems of each experiment quickly analyse and decide whether to retain each of those collision events from the LHC for further analysis, on a timescale of the order of milliseconds. In this colloquium I will present an overview of the tools and real-time analysis techniques employed within these trigger systems, focusing on the ATLAS, CMS and LHCb experiments. It also presents physics cases that use novel techniques to make the most of LHC data and achieve unprecedented statistical power, such as measurements and searches with physics objects reconstructed and analyzed directly within the trigger system. Finally, I will give an overview of the interconnections of these real-time analysis techniques to other fields of research and industry.



- **Coffee, tea and cookies will be served at 16:30h**
- **After the colloquium there is a chance for private discussions with the speaker over drinks and pretzels**