Jet Physics at the Large Hadron Collider Run II

**Presented by:**

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**Abstract**

This year marks the beginning of the second run of the Large Hadron Collider. The increased center-of-mass energy will make more stringent studies of properties of the Higgs boson possible and it will extend the reach for the search of physics Beyond the Standard Model. The exploration of this new energy regime cannot be successful without a careful (re)consideration of Standard Model processes and backgrounds, often dominated by strong interactions.

On the one hand, the hadronic decay products of high-pT massive particle can be reconstructed into a single jet, demanding substructure techniques to separate signal from background jets. On the other hand, the large center-of-mass energy implies that we have to understand processes with many high-pT jets.

I discuss calculations that aim to achieve a deeper understanding of QCD radiation within and between high-pT jets, and that indicate how to develop more efficient and robust tools to explore the new energy frontier.