

## Séminaire LAL

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**Mardi 19 juin 2018 à 11h00**

### *Deep Dive into Deep Learning for LHC and HL-LHC*

In recent years, the feasibility of Deep Learning-based solutions to a variety of High Energy Physics problems has been demonstrated, generally on simplified problems with toy synthetic datasets. While a few of the resulting techniques and algorithms are already being applied in analysis of LHC data, many will face difficult scientific and technical hurdles as they tackle the complexities of real detectors and LHC environment, attempt to scale to LHC data volumes, and integrate into the simulation, reconstruction, and analysis pipelines and workflow. For the HL-LHC, the hope is that some of these techniques will help mitigate computational challenges that are magnified by the slow down of Moore's law scaling, which in the past few decades have allowed HEP to rely on the embarrassingly parallel nature of their data to scale, using ever faster and core-dense commodity linux boxes with minimal fundamental changes to their software. I will survey Deep Learning efforts in HEP, the current and anticipated challenges, and speculate about how Deep Learning and the Deep Learning software and hardware ecosystem could address HL-LHC computing challenges.

**Salle 101** - Bât. 200, Orsay

Thé et café seront servis 15 mn avant le séminaire  
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