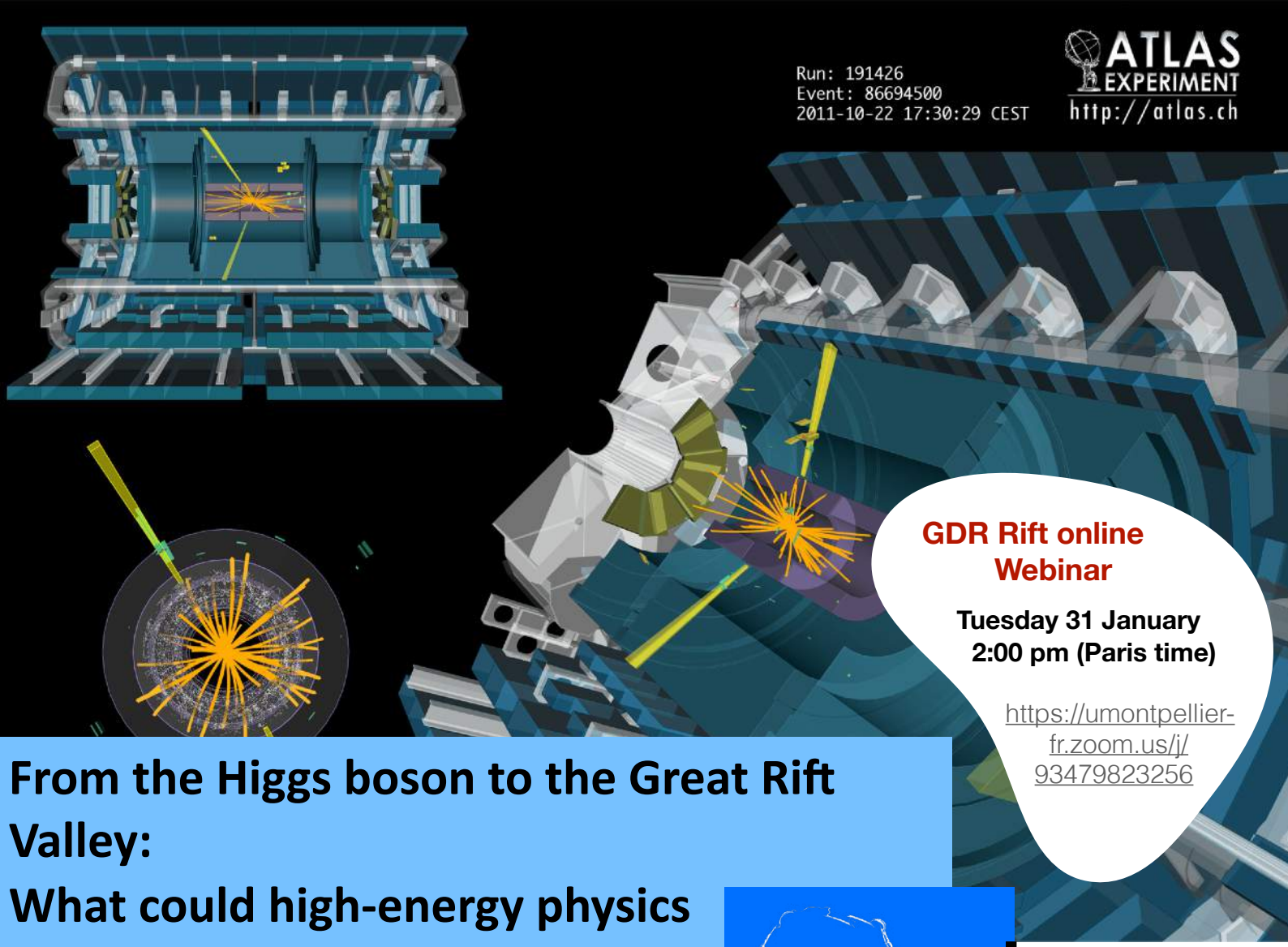


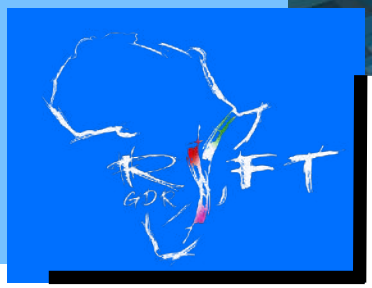
GDR Rift online Webinar

Tuesday 31 January
2:00 pm (Paris time)

https://umontpellier-fr.zoom.us/j/93479823256

From the Higgs boson to the Great Rift Valley: What could high-energy physics technologies do for you?

Lydia Roos
Senior research staff at Laboratoire de physique nucléaire et de hautes énergies (LPNHE), CNRS/IN2P3 & Sorbonne Université



High-energy physics is the study of the fundamental properties of the elementary constituents of matter. It requires sophisticated and highly-expensive experimental devices, mostly located in Europe, Asia and America. However, high-energy physics may not be as disconnected as it seems at first sight from the studies performed within the GDR Rift. As a matter of fact, there are numerous examples of technologies, originally developed for particle physics, that have been transferred to various other scientific fields. After a short presentation of the ATLAS experiment at CERN, Geneva, the speaker will give a few examples of technologies such as muon tomography, big data processing and image analysis by machine learning techniques, simulation of radiation, detection of radon, or network of connected sensors, which could be of interest for future interdisciplinary collaborations.

Lydia Roos is a high-energy physicist at CNRS working on accelerator-based experiments, first at the European Laboratory for Particle Physics, CERN, Geneva, where she did her PhD work in the early 1990's, then at the Stanford Linear Accelerator Center in California. Since 2006, she is a member of the ATLAS experiment at the LHC (CERN) where the Higgs boson was discovered. She was also a scientific attaché at the French Embassy (2004-2006) in Beijing, the French director of the France-China Particle Physics Laboratory (FCPPL, 2007-2011) and a Scientific Director at the National Institute for Nuclear Physics and Particle Physics (IN2P3) of CNRS (2018-2021).