

**Lundi 05/12/2016, 11h00-12h00**

CEA-Saclay Bat 141, salle Andr © Berthelot

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# **Superconducting Magnet developments for HL-LHC and beyond**

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In order to fully exploit the physics potential of the Large Hadron Collider, a major luminosity upgrade will take place as part of the HL-LHC project (High Luminosity LHC). This project led by CERN encompasses a large number of international collaborators to achieve the ambitious technological goals. In total, about 1.2 km of existing LHC infrastructure will be replaced. Crab cavities, superconducting magnets in the interaction region and superconducting links are key components of this upgrade.

From a superconducting magnet standpoint, several technologies will be part of this upgrade : from the rather well-known NbTi technology to the Nb3Sn technology which will be included in an accelerator for the first time in History.

We will give an overview of these technologies and their challenges, and go over some examples of the magnets which are part of the upgrade. Finally, as HL-LHC set the stage for future accelerators, we will introduce the work on SC magnets presently done toward higher energy machines.

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Le caf © sera servi 10 minutes avant.

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