

# M.Sc. Thesis at CERN (Dynamic Voltage Restorer)

The **Electric Power Converter Group** of CERN is in charge of the design, development, procurement, construction, installation, operation and maintenance of electric power converters for the particle accelerators at CERN.

We are currently looking for a M.Sc. student to work on his M.Sc. thesis in the field of electric power conversion. During his thesis, the student will work at CERN in Geneva as a member of our power quality team.

The subject for this M.Sc. thesis is the development of a Power Quality Conditioning System to eliminate the transient voltage disturbances in the electrical network of the LHC accelerator. This system shall compensate all voltage dips (one, two and three-phase) up to -50 % for up to 150 ms, to assure the continued operation of the LHC during such disturbances. The concept of this system shall be based on Dynamic Voltage Restorer (DVR) technology with DC capacitor banks for energy storage.

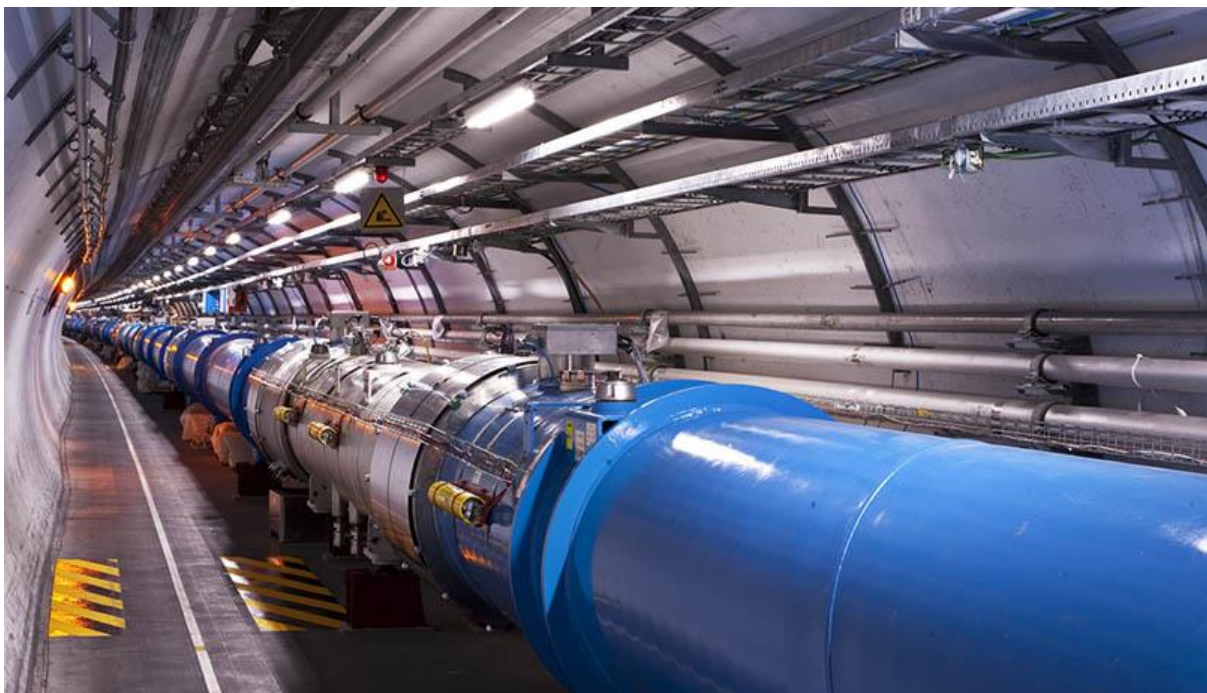
- *Are you passionate about power converters and power quality?*
- *Do you have basic experience simulating power converters in Matlab/Simulink?*

Are you ready for this challenge?

## Contact us:

Thomas Höhn ([thomas.hoehn@cern.ch](mailto:thomas.hoehn@cern.ch))

Francisco R. Blázquez ([francisco.blanquez@cern.ch](mailto:francisco.blanquez@cern.ch))



*The tunnel of the largest particle accelerator in the world, the Large Hadron Collider LHC (27 km)*