Laboratory visits

If you like to join any of these laboratory visits, please sign up at the registration desk before 13.00 Wednesday 22 January. NB: limited number of places; first come, first served applies.

There are two tours, both starting with transport from Royal Garden Hotel at 17.00 Wednesday 22 January and return to the Conference Reception before 19.00.

1: Tour to SmartGrids lab and Wind Tunnel
Two groups of 15 people each will be given a guided tour to the SmartGrids lab, IGBT life time test facility and Wind Tunnel.

The SmartGrids lab is a highly flexible facility suitable for studying different grid configurations, hybrid ac/dc networks, offshore grids and wind energy conversion systems. It consists of electrical machines, power electronic converters, grid models, transformers and protection systems. The laboratory visit will include a live demonstration of a lab scale implementation of a future offshore HVDC grid connecting an offshore wind farm between UK, Germany and Norway. www.sintef.no/energylab

The IGBT lifetime test facility is for performing accelerated lifetime tests of IGBTs. Such tests can be utilized in order to determine component failure mechanisms, but also for developing lifetime models transferrable to actual applications. This work is an important part of reliability research in power electronic applications such as wind turbine converters and HVDC-stations. The laboratory visit will show a live test, and explain the principles behind the applied methods.

The Wind Tunnel is 11 x 3 x 2 meter with 100 km/h max speed. The tunnel is equipped with 3D remote control mechanisms for traversing probes within the test section, and for measuring wind loads on structures positioned in the test section, there is a 6-component Schenk balance and AMTI 6-component force plates. The wind tunnel is used for research within wind energy, e.g. the NOWITECH/NORCOWE blind test and for wind turbine wake interaction studies. http://www.ntnu.edu/ept/laboratories/aerodynamic

2: Tour to Ocean Basin Laboratory
Two groups of 15 people each will be given a guided tour to the Ocean Basin Laboratory. The lab is used for basic as well as applied research on marine structures and operations. A total environmental simulation including wind, waves and current offers a unique possibility for testing of models in realistic conditions. With a depth of 10 metres and a water surface of 50 x 80 m the Ocean Basin Laboratory is an excellent tool for investigation or existing of future challenges within marine technology.
http://www.sintef.no/home/MARINTEK/Laboratories/Ocean-Laboratory/