

Open seminar:

PhD and Post Doc seminar

PhD and Post Doc candidates in CEDREN and the Norwegian Hydropower Centre present their work. The seminar programme will be a mix of presentations and group discussions.

- Date:** 6th April, 2016
Time: 0900 – 1600
Place: Institutt for vann- og miljøteknikk, NTNU, Auditorium VG2 (address S. P. Andersens veg 5, Trondheim)
Dinner: 1830, Una Pizzeria, Solsiden
Registration: By email to Kari Haugan (NVKS) kari.haugan@ntnu.no
Contact: Julie Charmasson (CEDREN) julie.charmasson@sintef.no or Kari Haugan (NVKS) kari.haugan@ntnu.no

About the day

The Norwegian Hydropower Centre at NTNU and CEDREN are key platforms for research and education in the area of hydropower in Norway. The objective is to secure future competence in close cooperation with top actors within research and industry in Norway.

The seminar will discuss the following two cases:

- Statkraft is building Europe's largest onshore wind power project in Fosen, Sør-Trøndelag. How will this affect the regional hydropower sector and system? What will be key challenges and opportunities?
- The energy system is changing; i.e. Statkraft is building large scale batteries in Germany and Bloomberg predicts that the next oil crisis could be caused by electric vehicles. How will such changes and developments affect the hydropower sector, or will they have any effect at all?

There will be presentations from the PhD and Post Doc-candidates as well as group discussions. The presentations will be in English. Each presentation should be maximum 10 min, including time for questions.

In the evening, all seminar participants are invited to an informal dinner at the restaurant Una Pizzeria, Solsiden, Trondheim. Registration is necessary for participation.

Time	Topic
0900 - 0930	Welcome and introduction
0930 - 1015	Presentations: Hydropower turbines <ul style="list-style-type: none"> • High head Francis turbines. <i>Carl Werdelin Bergan</i> • Pressure pulsations in Francis turbines. <i>Peter Joachim Gogstad</i> • Consequence and active use of free gas in hydropower. <i>Ingrid Vilberg</i> • Flow in Pelton turbines. <i>Bjørn Winther Solemslie</i>
1015 - 1100	Group discussions
1100 - 1200	Presentations: Hydropower operations <ul style="list-style-type: none"> • Design of variable speed generators for hydropower applications. <i>Erlend L. Engevik</i> • Variable speed operation of hydro power plants/vibration analysis of hydro generator. <i>Mostafa Valavi</i> • Balancing of wind and solar production in Northern Europe with Norwegian hydropower. <i>Ingeborg Graabak</i> • Dynamics and stability in reversible pump turbines. <i>Magni Fjørtoft Svarstad</i> • Dynamic loads in hydro power plants. <i>Rakel Ellingsen</i>
1200 - 1300	Lunch
1300 - 1350	Presentations: Rivers and reservoirs management <ul style="list-style-type: none"> • Water consumption from hydropower production. <i>Tor Haakon Bakken</i> • Environmental flows and sustainable management in Norwegian regulated rivers. <i>Ana Adeva Bustos</i> • Techno-ecological indicators for a better description and management of water bodies within the Water Framework Directive in Norway. <i>Peggy Zinke</i> • Mitigating the effect of hydropower stations on fish migration in Norway. <i>Ana Silva</i> • Safe and efficient two-way migration for salmonids and European eel past hydropower structures. <i>Marcell Szabo-Meszaros</i>
1350 - 1430	Group discussions
1430 - 1530	Presentations: Hydropower structures <ul style="list-style-type: none"> • Sediment erosion and secondary flow in Francis turbines. <i>Sailesh Chitraker</i> • Sediment erosion and hydraulic turbines. <i>Biraj Singh Thapa</i> • Sliding stability on concrete dams. <i>Dipen Bista</i> • Linking physical wall roughness of unlined tunnels to hydraulic resistance. <i>Pierre-Yves Henry</i> • Applicability of united/shotcrete lined high pressure tunnels for hydropower projects in the Himalaya. <i>Chhatra Bahadur Basnet</i>
1530 - 1600	End of seminar
1830	Informal dinner at the restaurant Una Pizzeria, Solsiden. Registration needed!