



## Volvo Cars/Uppsala University Joint Master Thesis Projects June 4, 10-11

<b>COLLEEN DONOGHUE</b>	<b>Ni concentration Effects on Thermal Properties of Positive Electrodes in Commercial LIBs</b>	
10:00 – 10:05	Introduction and presentation of speaker	David Anderson, Industrial supervisor
10:05 – 10:25	Presentation of Master Thesis	Colleen Donoghue
10:25 – 10:30	Questions and reflections	David Anderson, Industrial supervisor
<b>CAROLINE ALBERT</b>	<b>Characterization of cylindrical Li-ion cell (4680)</b>	
10.30 – 10:35	Introduction and presentation of speaker	Andrea Boschin, Industrial supervisor
10.35 – 10.55	Presentation of Master Thesis	Caroline Albert
10:55 – 11:00	Questions and reflections	Andrea Boschin, Industrial supervisor

**Author:** Colleen Donoghue

**Title:** *Ni concentration Effects on Thermal Properties of Positive Electrodes in Commercial LIBs*

**Abstract:** This study aims to compare the thermal properties of commercial NMC622 and NMC811 positive electrodes and assess how these properties are influenced by changes in charging rate and temperature during charging. Differential scanning calorimetry (DSC) was utilized to analyze the positive electrodes with electrolyte, determining the onset and peak temperatures of active material breakdown.

**Author:** Caroline Albert

**Title:** *Characterization of cylindrical Li-ion cell (4680)*

**Abstract:** The 46xx series of cylindrical Li-ion cells are one of the recent cell formats introduced into the market. These cells have since gained considerable relevance and popularity among automotive manufacturers. It is of pertinence to acquire data on varied aspects of these cells in order to substantiate specifications, datasheets and build models. This study has addressed this need to gain thorough knowledge on the cell design, architecture and performance of one such novel 4680 Li-ion cell.