



# SweGRIDS

Investigating key performance of new commercial lithium-ion batteries for grid-microgrid energy storage applications

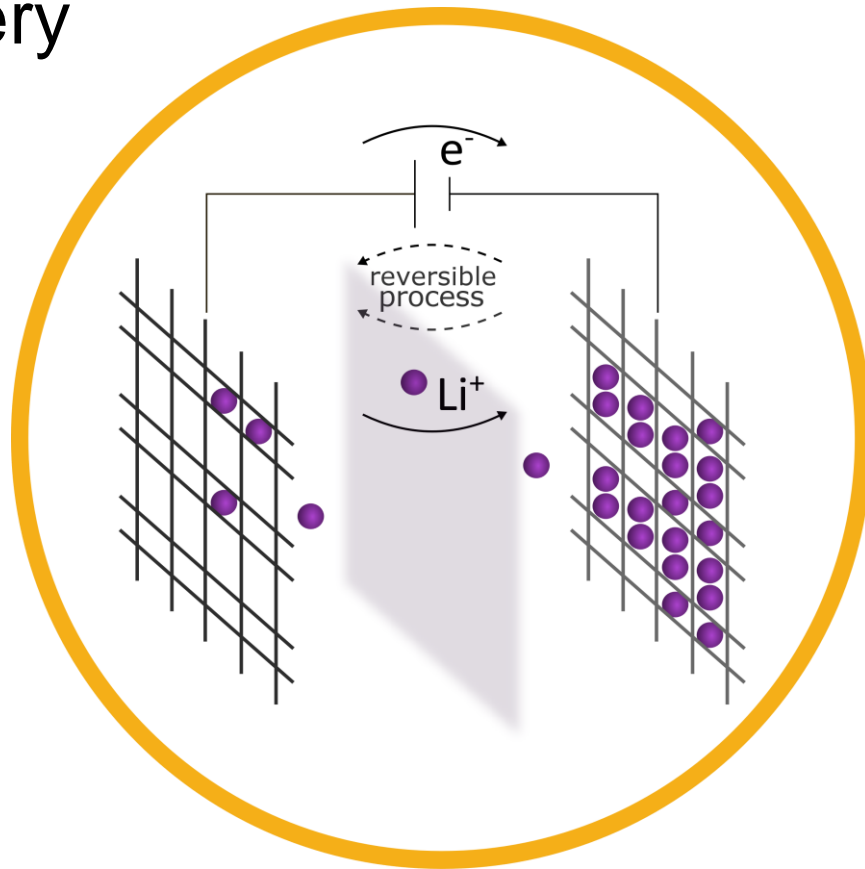
**PhD student:** Mathilda Ohrelus, [ohrelus@kth.se](mailto:ohrelus@kth.se)

**Supervisors:** Göran Lindbergh, Rakel Wreland Lindström (KTH), Jinying Yan, Sophie Von Kraemer, Firas Alhaider, Magnus Berg (Vattenfall)

**Project funded by:**

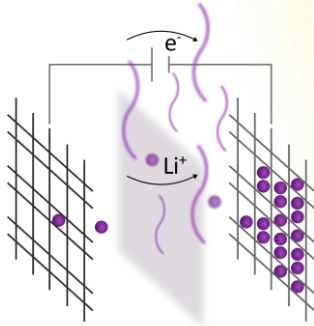
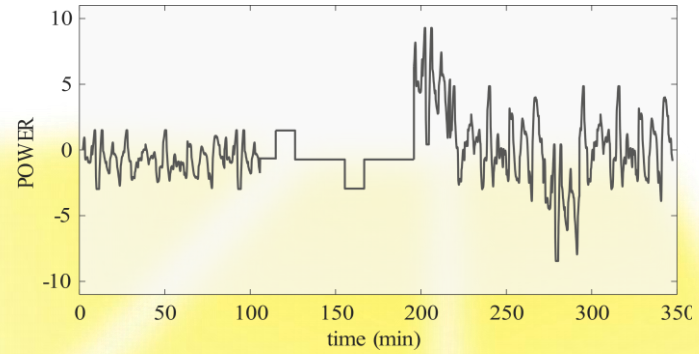


# The lithium-ion battery



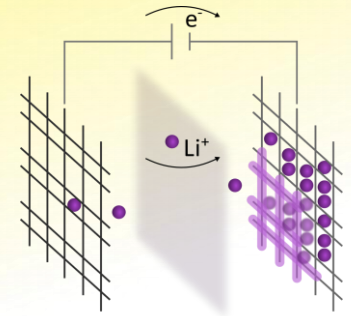
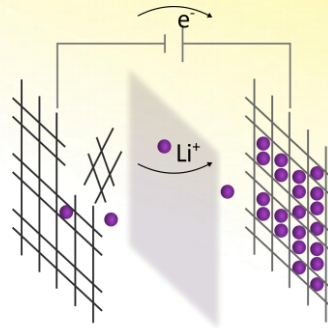
# Why do they fail?

SweGRIDS



Gas evolution

Electrode cracks

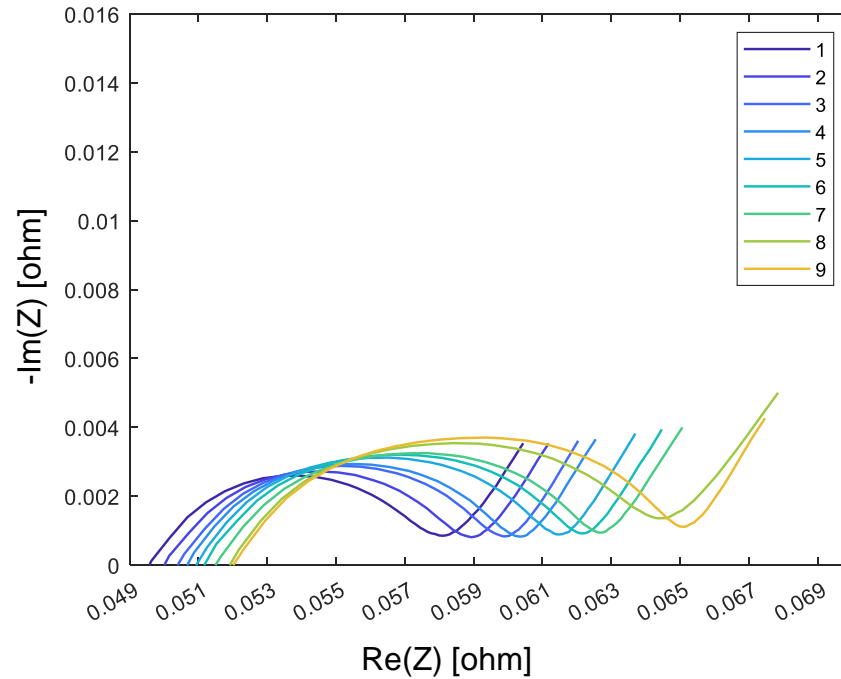


SEI layer growth



# Electrochemical Techniques to track degradation

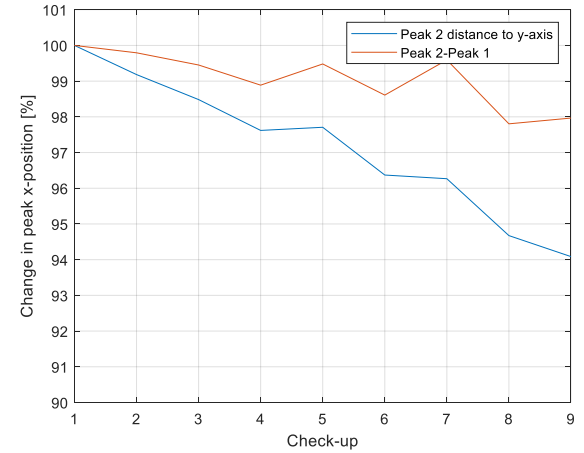
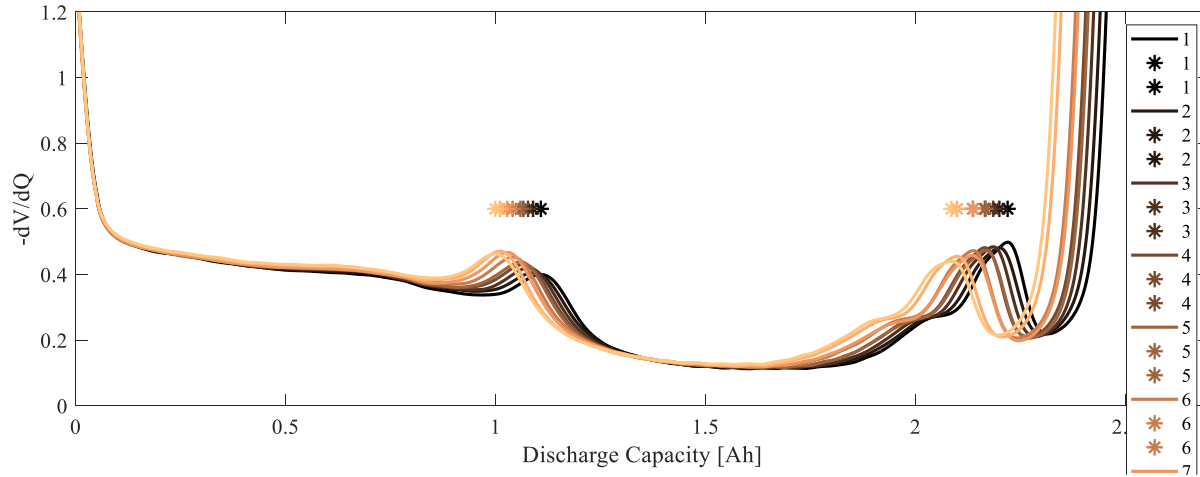
SweGRIDS

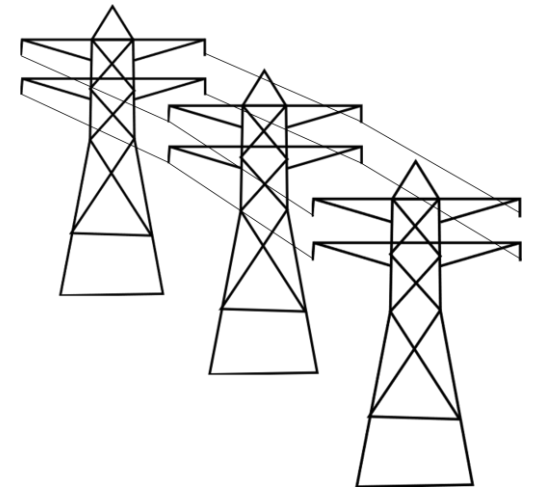
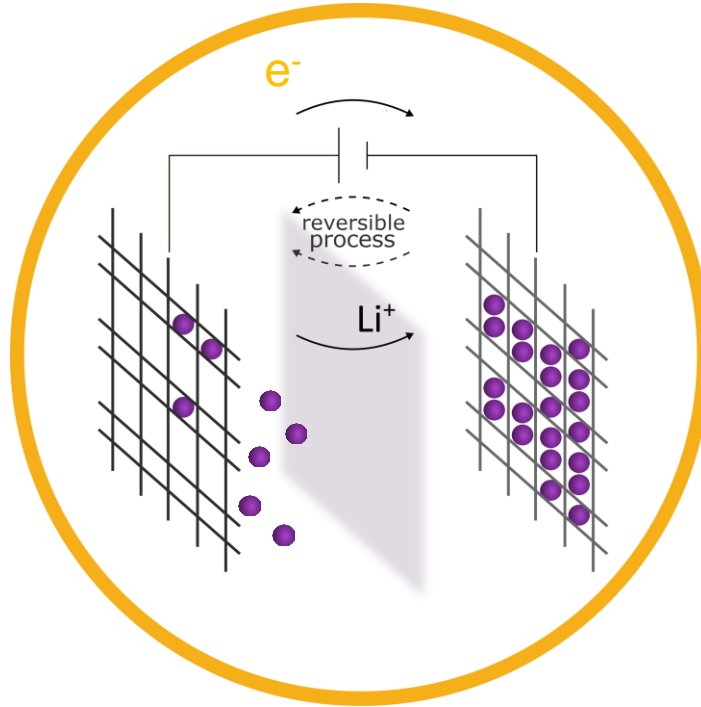
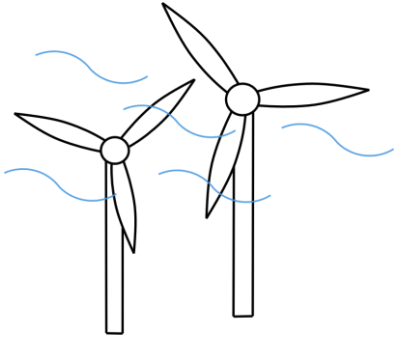


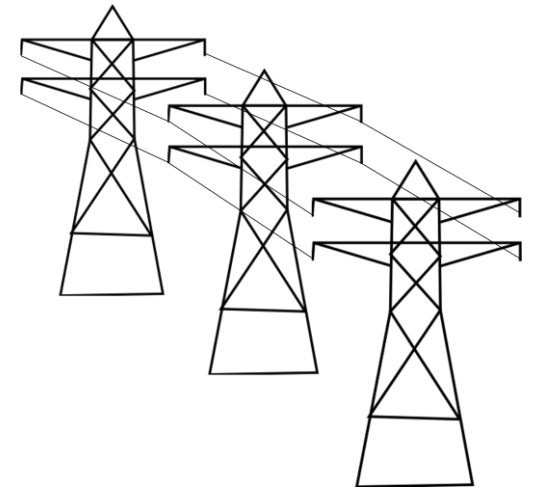
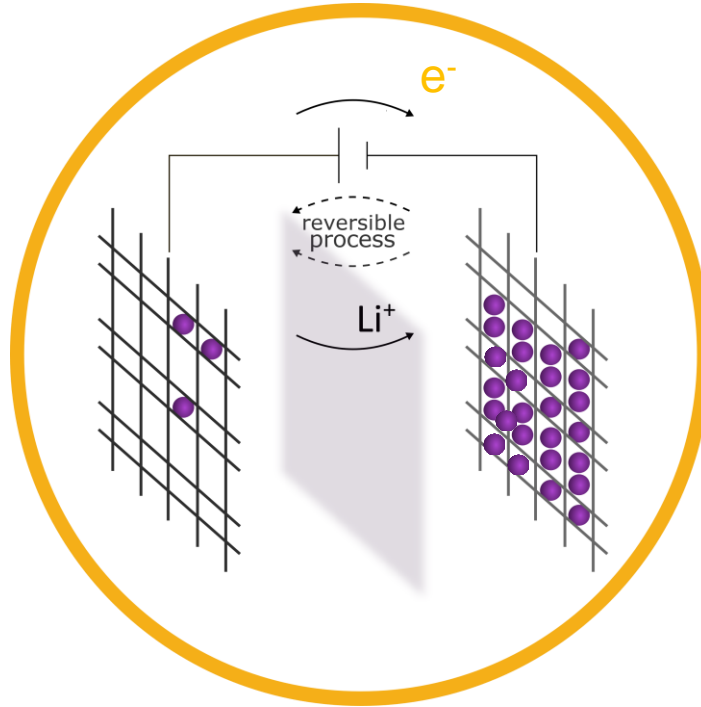
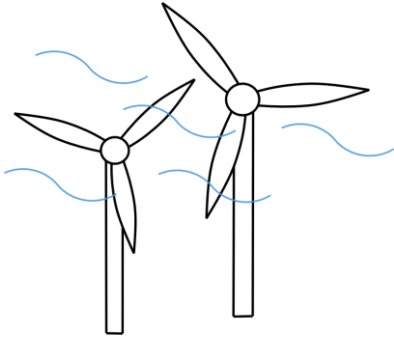


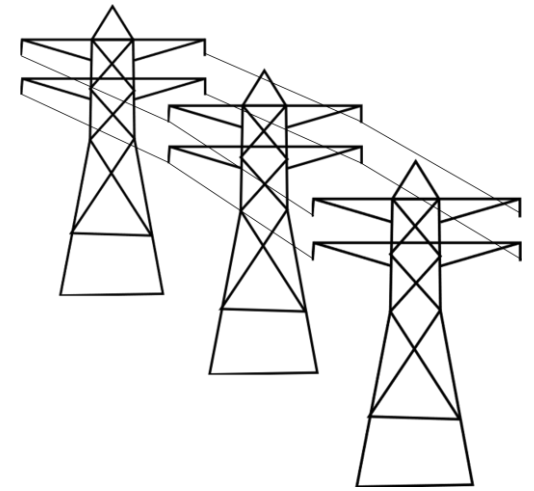
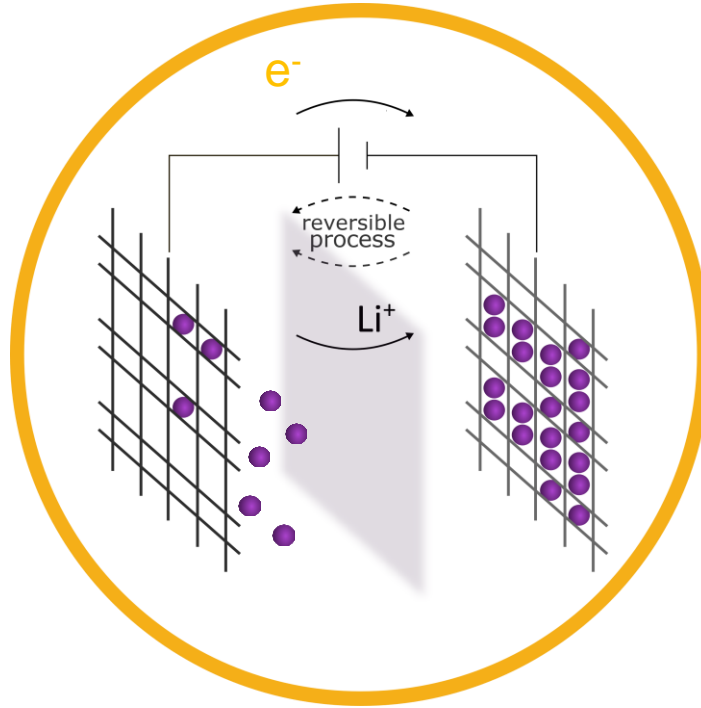
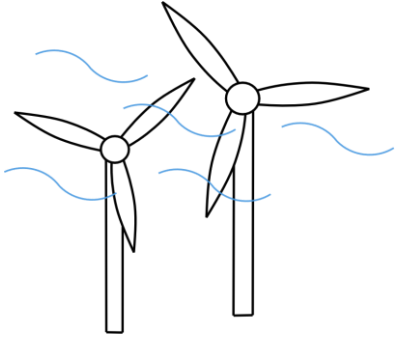
# Differential Voltage Analysis

SweGRIDS













SweGRIDS

Thank you for your  
attention!

[ohrelius@kth.se](mailto:ohrelius@kth.se)

---