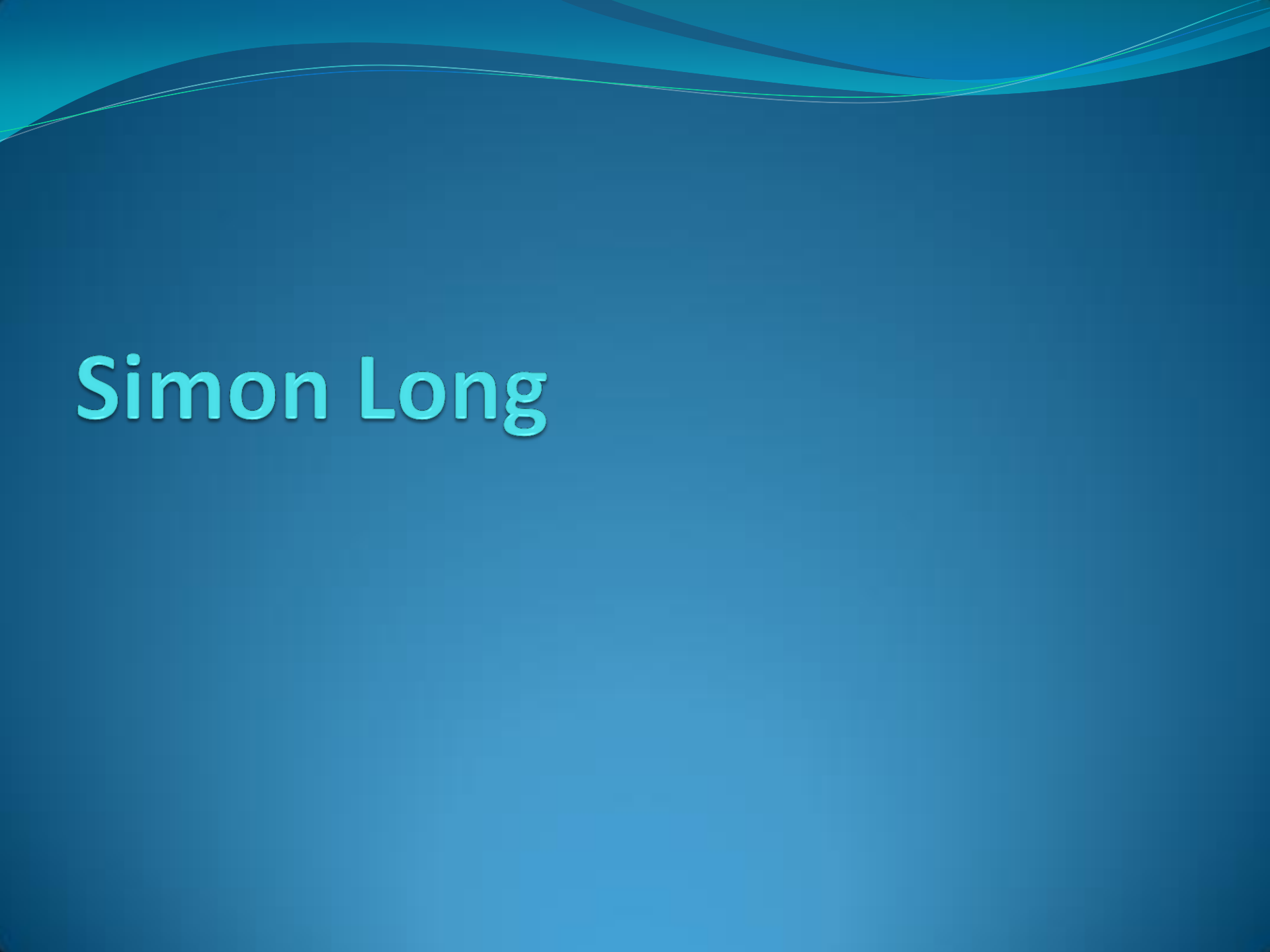
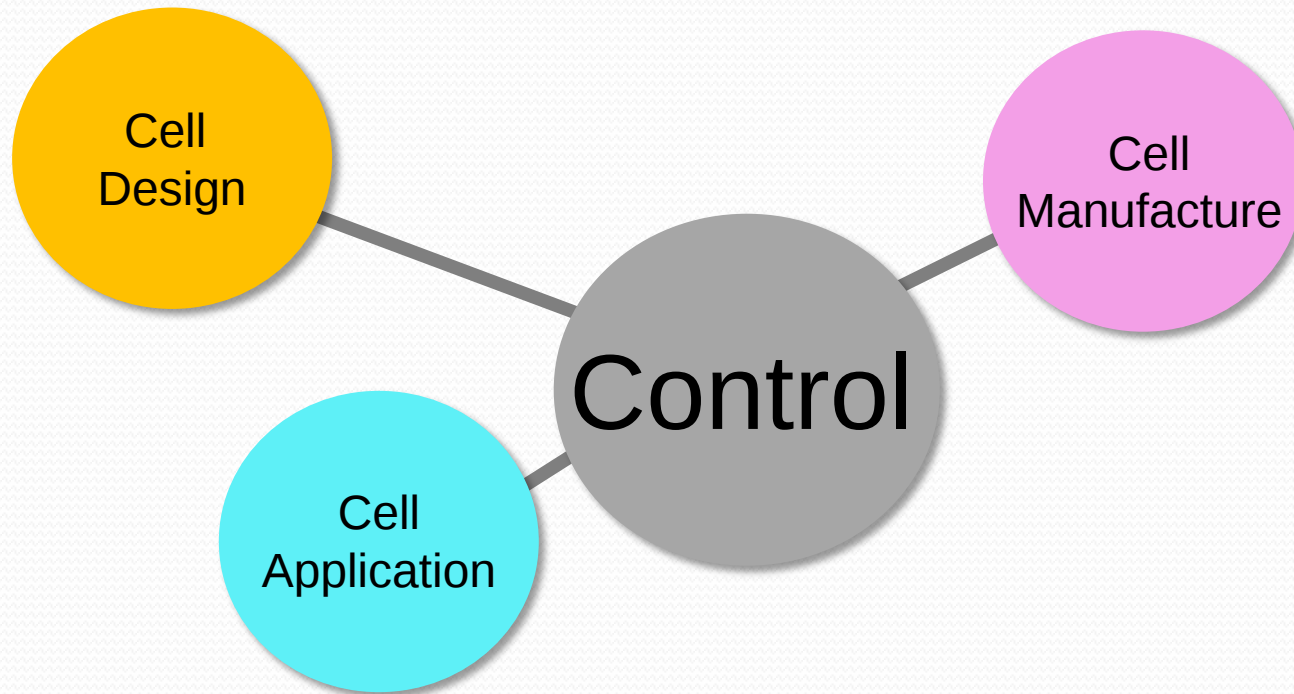




Simon Long

BATTERY BASICS

A reversible and repeatable electrochemical reaction which stores and discharges electrical energy.

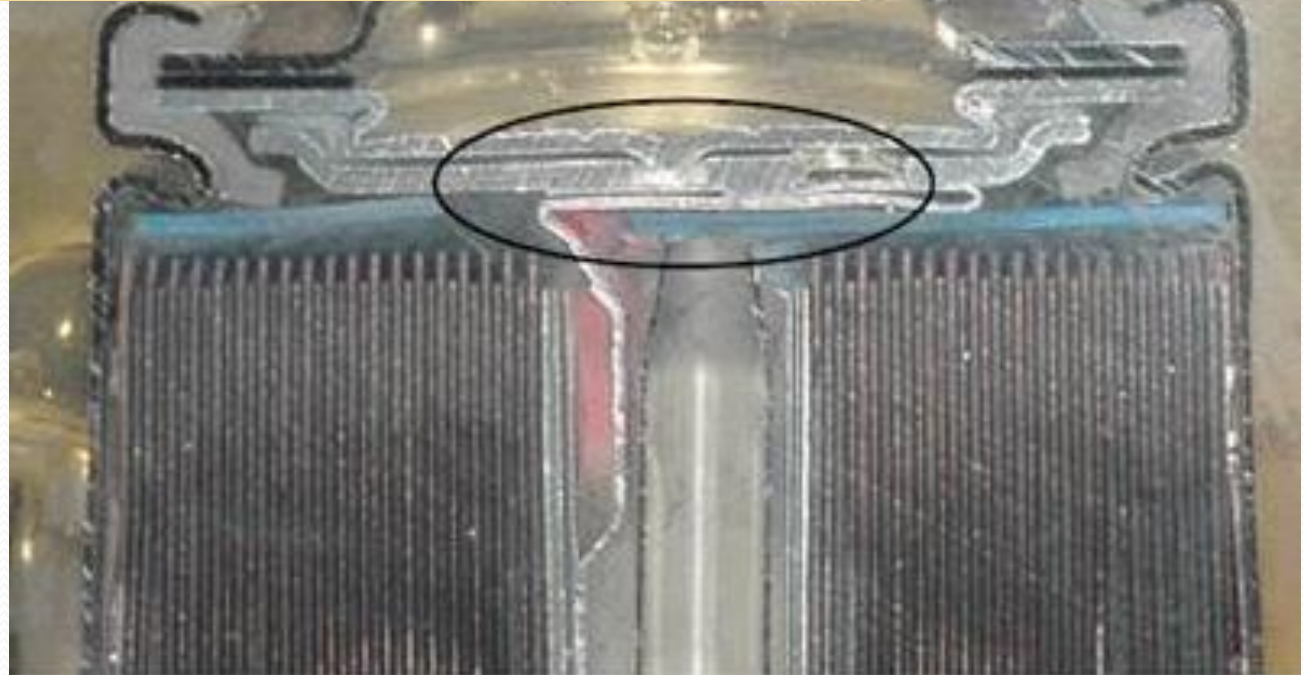


CELL SELF PROTECTION

CID – Charge interrupt device

Pressure relief mechanism – burst disc

Separator melt and shutdown



Cell Design

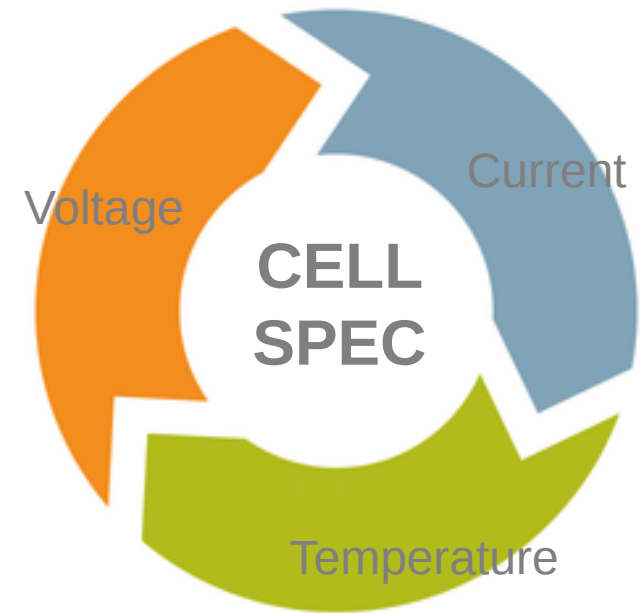
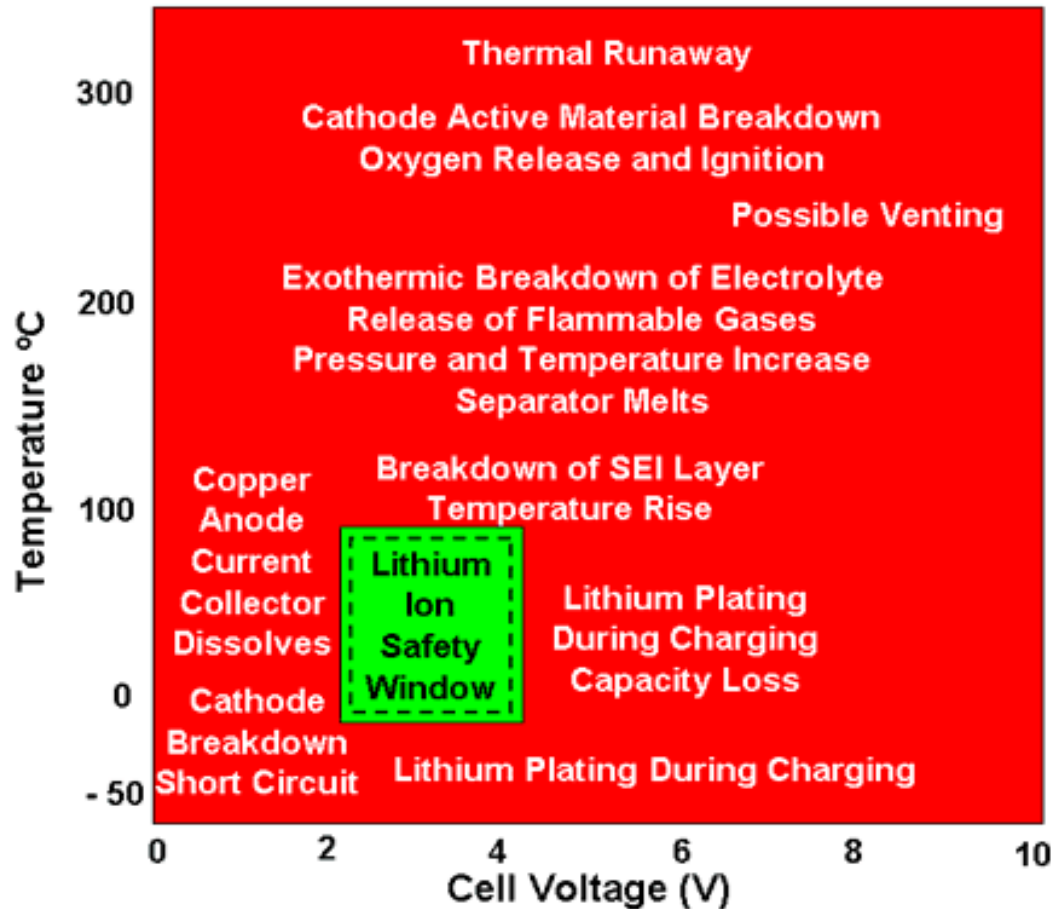
MANUFACTURE

Internal cell problems leading to loss of control:

- Contaminated electrolyte
- Short circuits - particles
- Short circuits - electrodes

SAFE OPERATING WINDOW

Lithium Ion Cell Operating Window



Cell Application

Flat cells aren't flat.

BATTERY DESIGN

- Battery Management System BMS
- Keep the BMS with the cells.
- Dual redundancy for all control systems.
- Multiple temperature measurement
- Cell matching
- Customer usage

