

Advanced Lithium-ion Cathode Workshop

Oak Ridge National Laboratory-March 15th 2016

Goal: To brainstorm and address current technical challenges related to high voltage lithium-ion cathodes. (i) High voltage redox and anionic stability (ii) Irreversible structural transformation (iii) Interfacial stability : cathode-electrolyte interface

Workshop highlights

Near Term
(2 yrs.)

- Continue emphasis on Ni-rich NMC, spinel substituted excess lithium NMC and ensure high voltage stability.

Mid Term
(3-5 yrs.)

- Stabilize the structure & composition of multi-lithium polyanionic chemistries containing TM's cations at higher oxidation state & address issue of oxygen evolution at $V > 4.3$ V.

Long Term
(> 5 yrs.)

- Cation disorder cathode composition with no voltage fade or hysteresis [e.g. $\text{Li}_{1.21}\text{Mo}_{0.467}\text{Cr}_{0.3}\text{O}_2$] & investigate reversible anionic redox activity