

## ADVANCED MATERIALS FOR HIGH ENERGY DENSITY LI-ION BATTERIES

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Electrochemical systems are being thought as the solution for the vast demand for high energy density in both portable and stationary devices. Such systems hold a great promise, while pressure on researchers grows as the need for more “juice” in mobile device (from small hand held electronic to large mobile systems as electric vehicles (EVs) dramatically increase as technology is rapidly evolving.

In this talk, we will address both the anode and cathode materials in Li-ion batteries. Lightweight anode current collector made of CNTs (carbon nanotubes) tissue materials and metal fluoride coating applied by atomic layer deposition (ALD) of 5 volts Lithiated Mn spinel Ni doped cathode materials ( $\text{LiMn}_{1.5}\text{Ni}_{0.5}\text{O}_4$ ) will be discussed in this talk. Synergism of both technologies will be presented in a flexible high energy Li-ion battery demonstration.