UCI University of California, Irvine

Optimizing Nanobatteries through Interface Science

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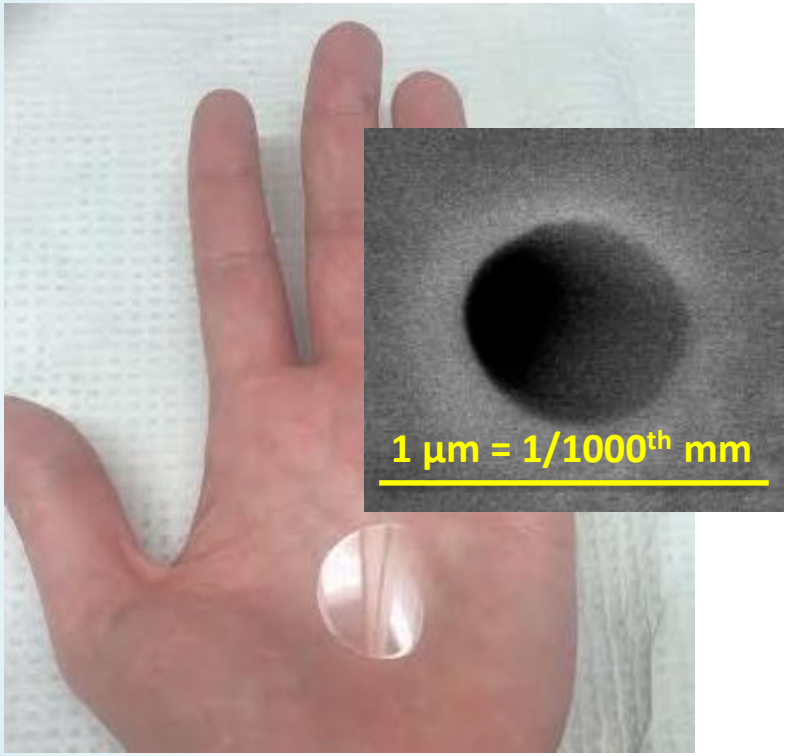
April 22, 2016

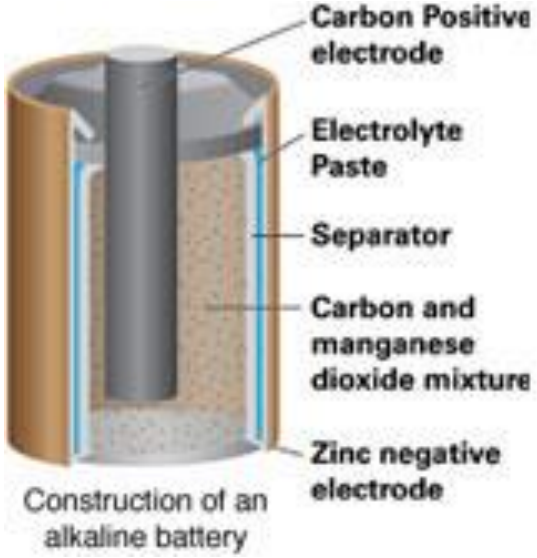
AGS Symposium

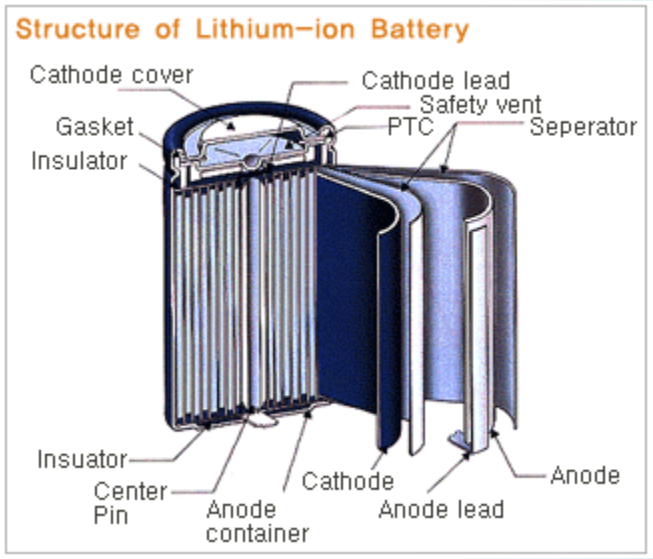
What does that mean exactly?



Micro- and Nanoscale phenomena can make Macroscale differences

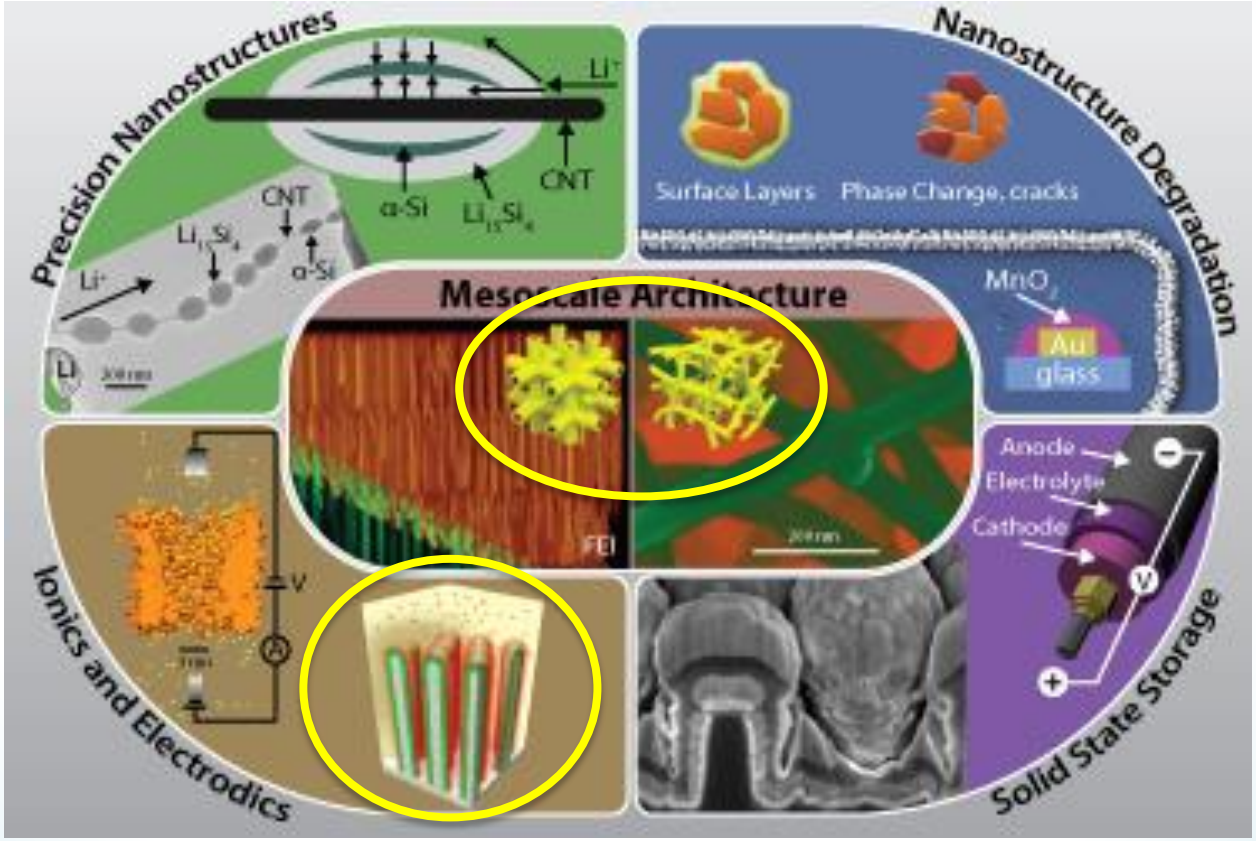
Standard Battery Design for Alkaline and Li-Ion



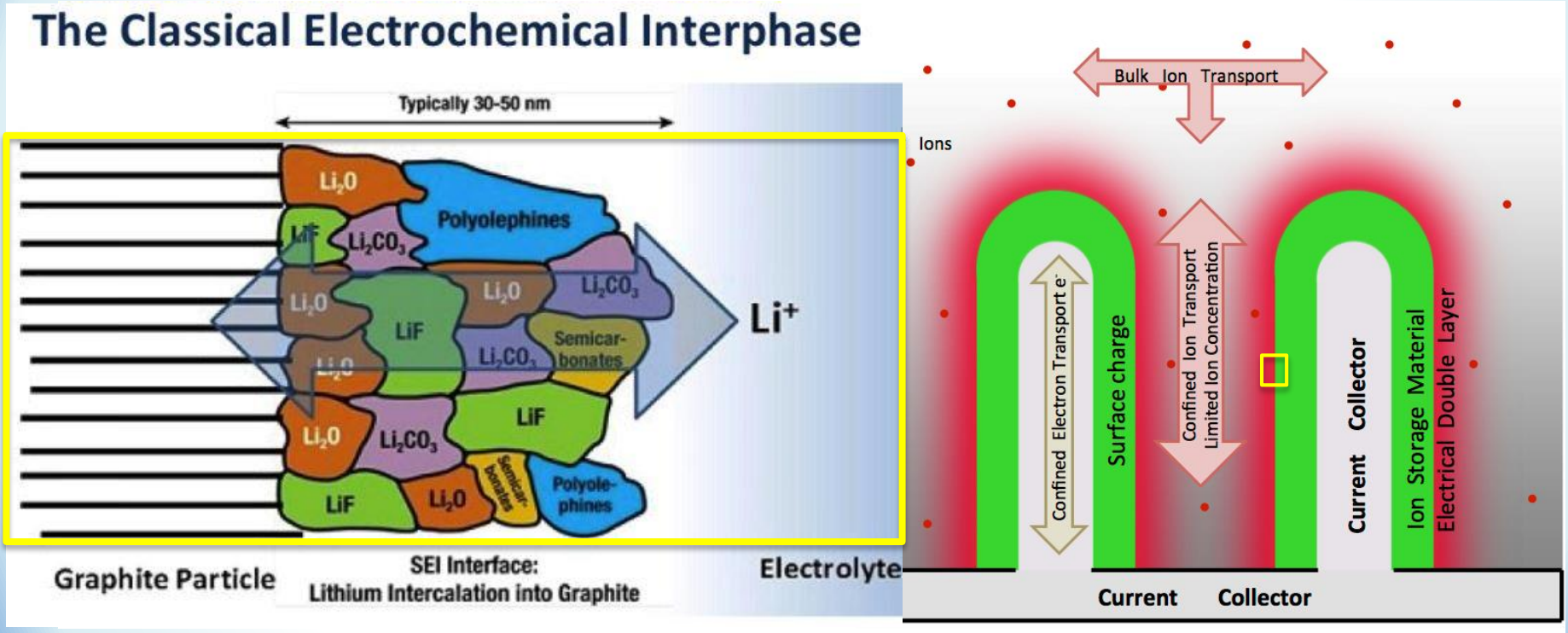


Mainly based on 2-D design principles

NEES – Nanostructures for Electrical Energy Storage

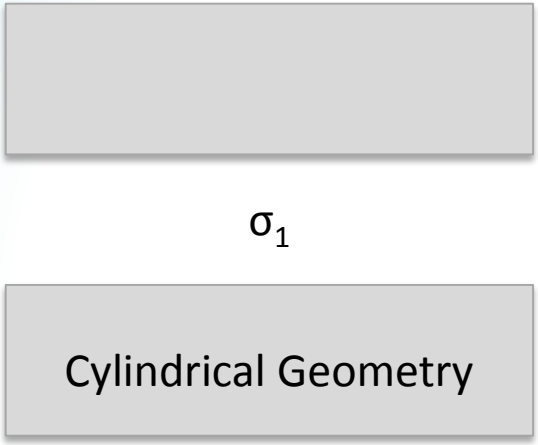


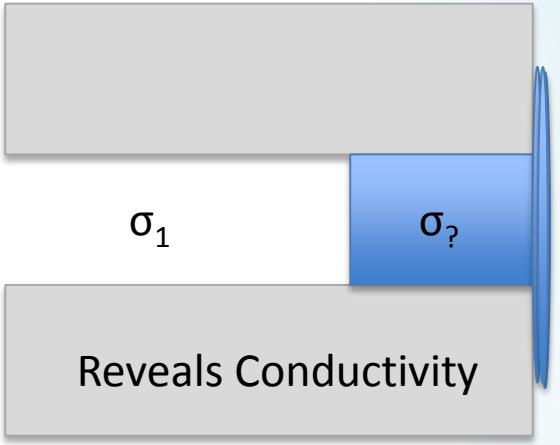
Interfaces and Nanobatteries

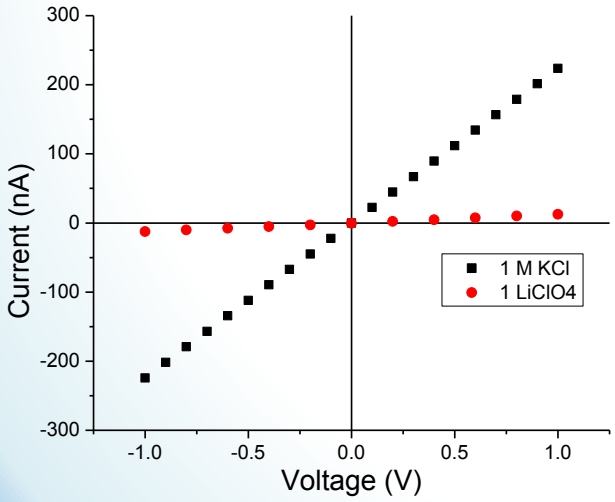


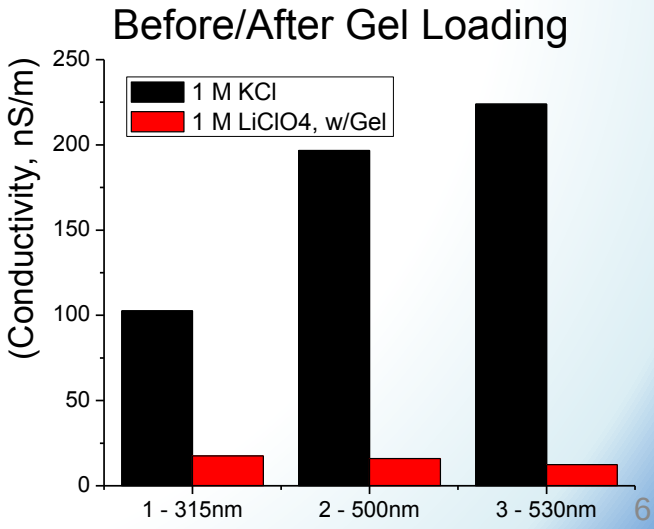
Nanopores can isolate these phenomena and study them in a controlled environment

What Nanopores Have Done



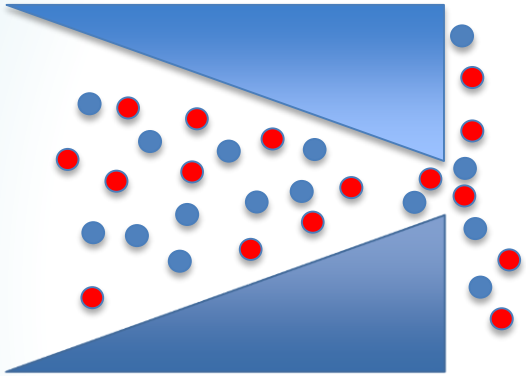


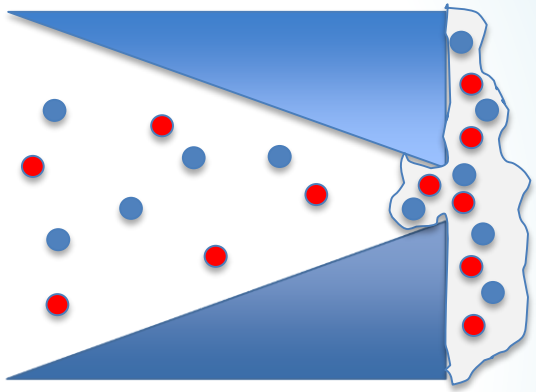




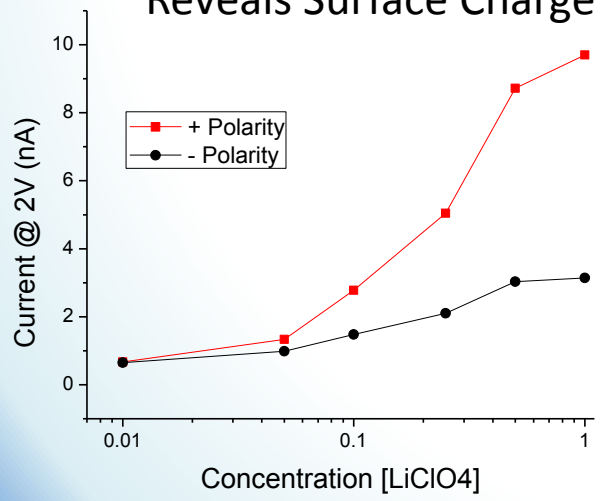
What Nanopores Have Done

Conical Geometry

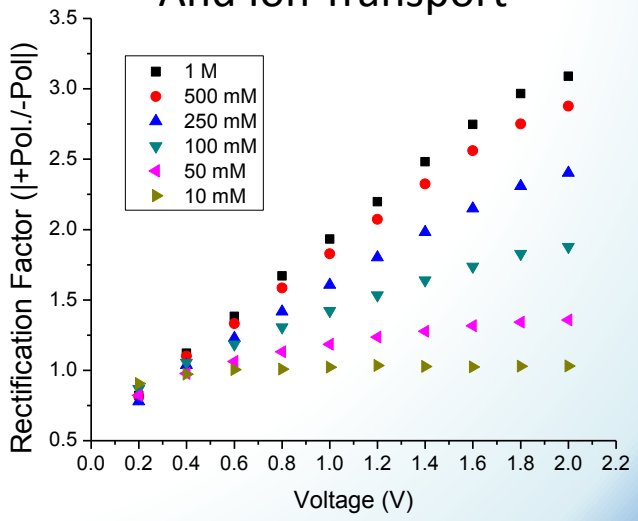




Reveals Surface Charge



And Ion Transport



Supercharge my next Tesla?

Maybe… in a couple years…