



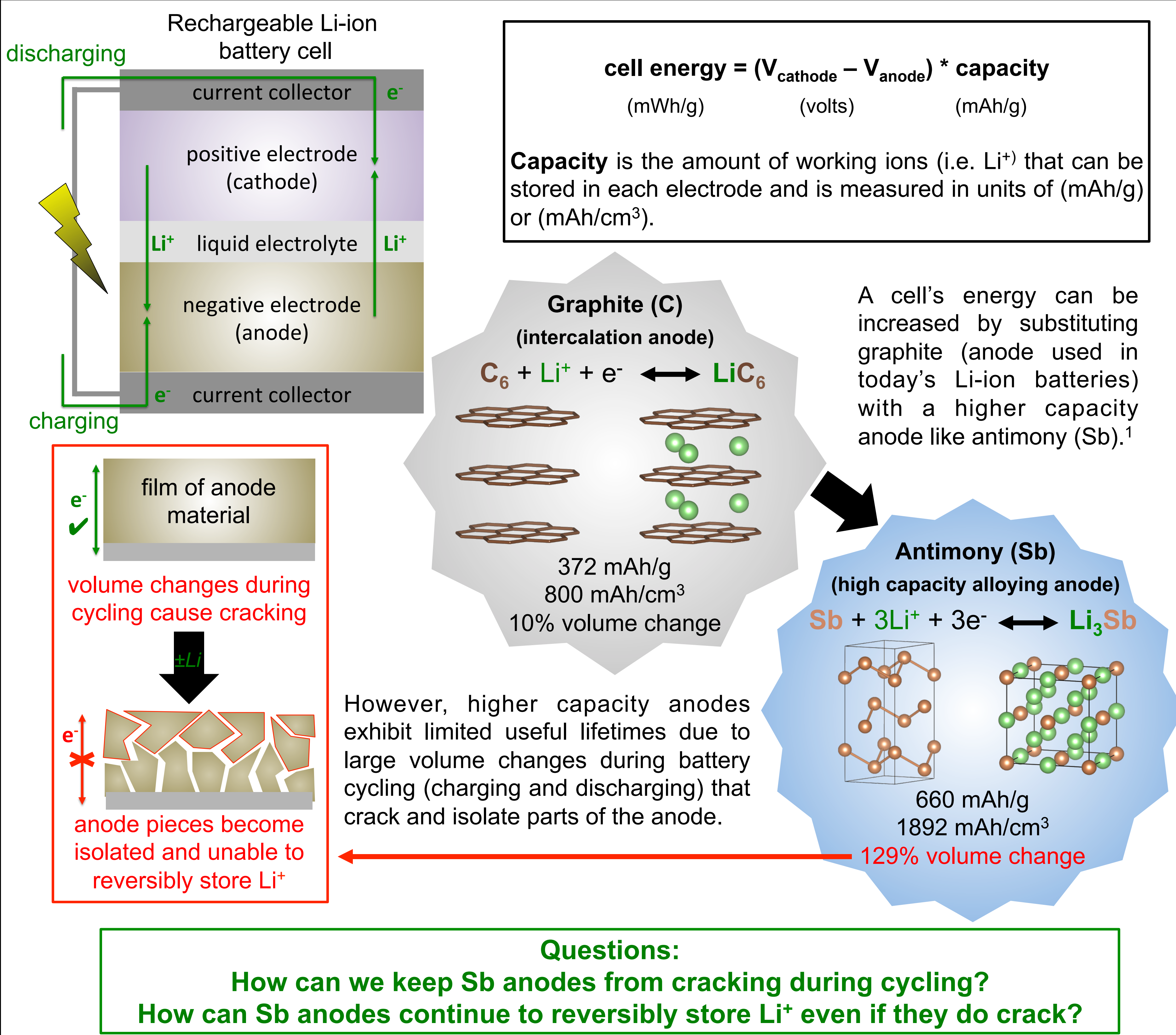
Carbon nanotube reinforced batteries: towards larger capacities and longer lifetimes

Maxwell C. Schulze and Amy L. Prieto

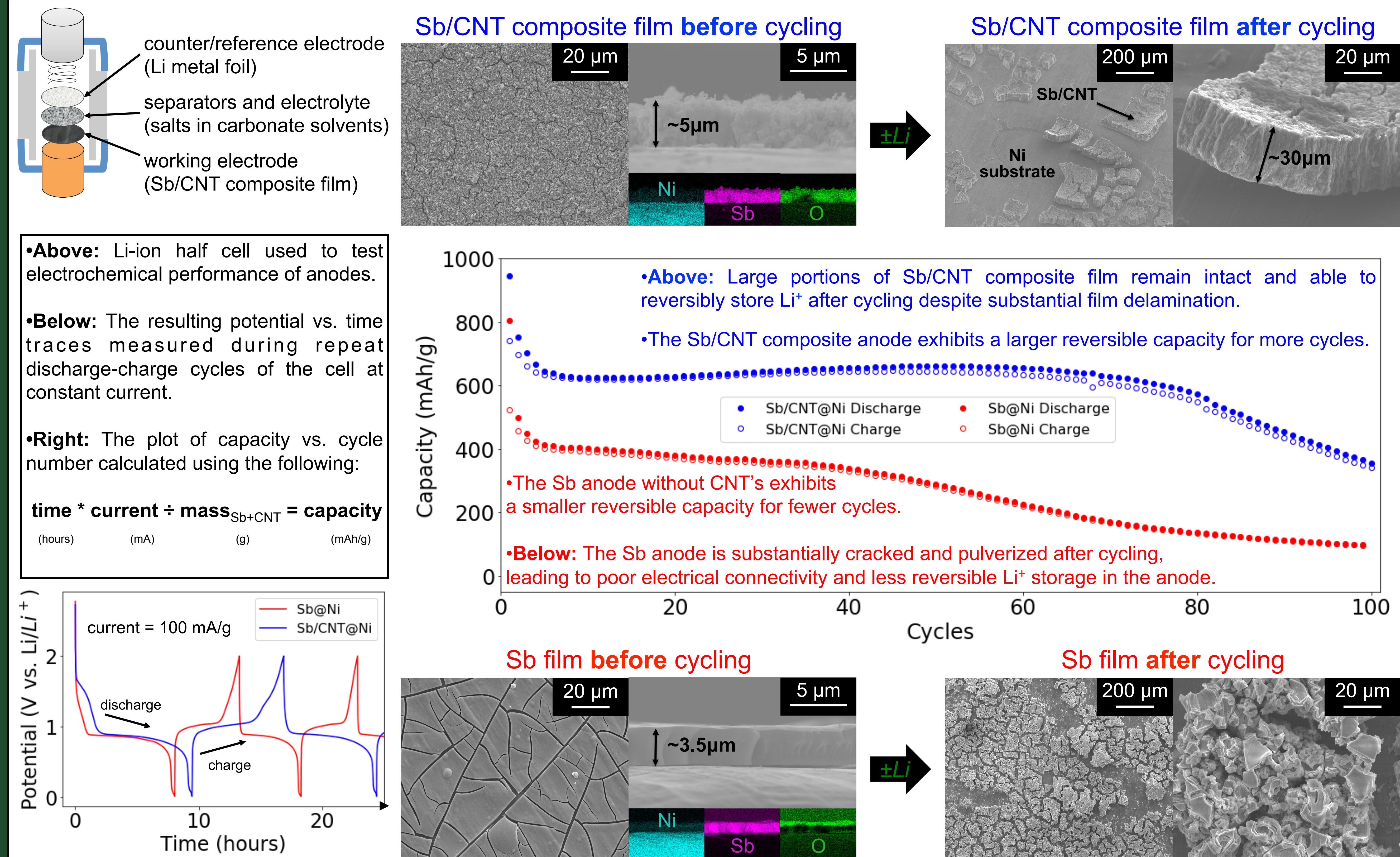
Department of Chemistry, Colorado State University, Fort Collins, Colorado 80523



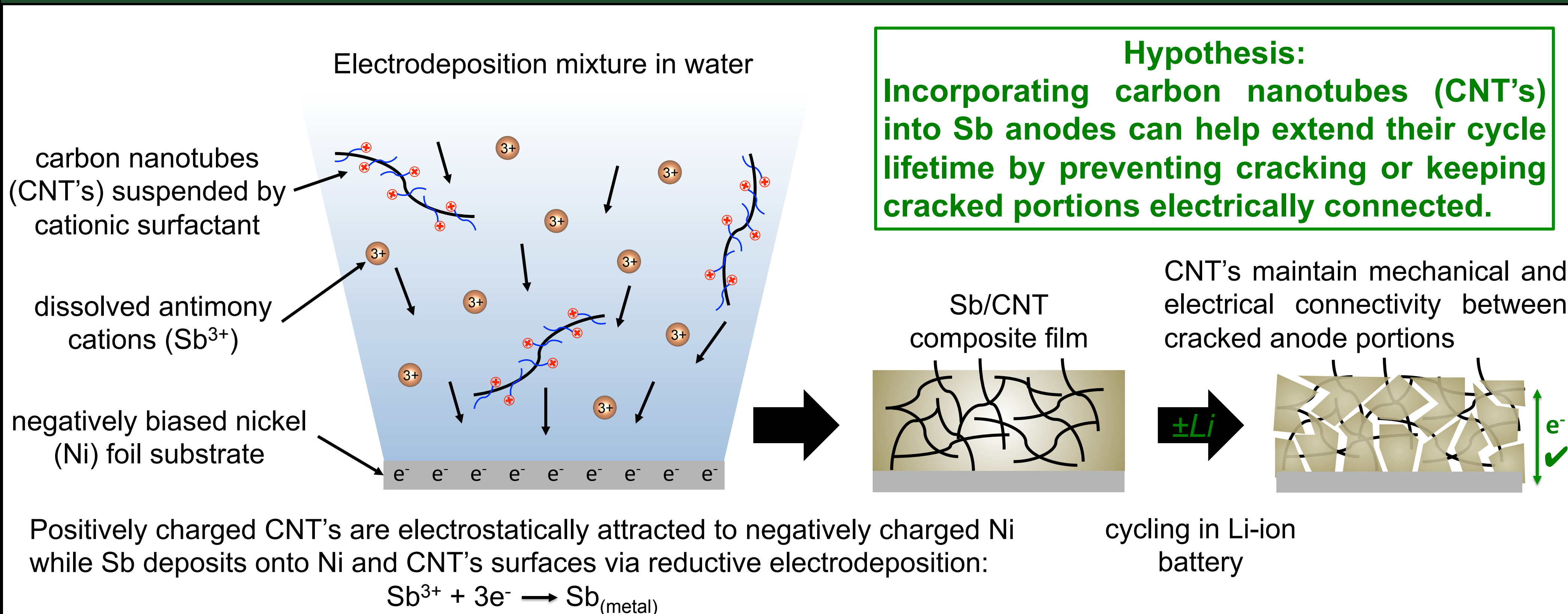
How can rechargeable batteries store more energy?



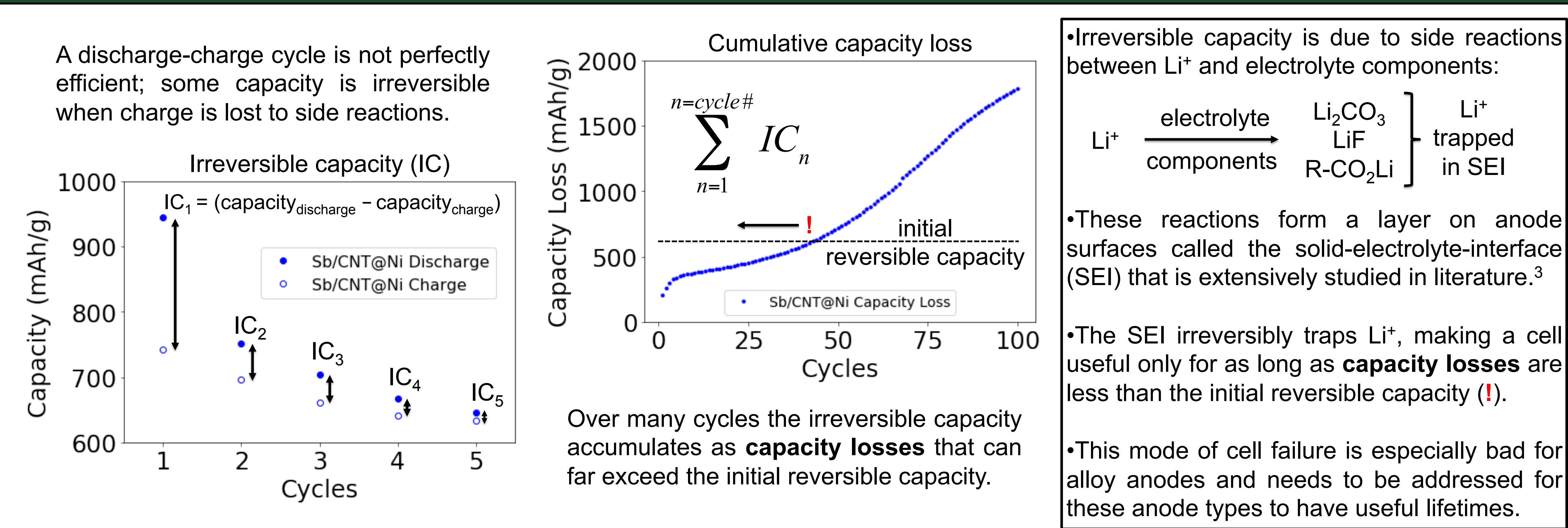
Electrochemical performance of Sb vs. Sb/CNT composite anodes²



Electrodeposition of Sb/CNT composite films²



Outlook: Irreversible capacity losses still limit cell lifetimes



1) M. N. Obrovac and V. L. Chevrier, Alloy Negative Electrodes for Li-Ion Batteries, *Chem. Rev.* 2014, **114** (23), 11444–11502.
2) M. C. Schulze, R. M. Belson, L. A. Kraynak, and A. L. Prieto, Electrodeposition of Sb/CNT composite films as anodes for Li- and Na-ion batteries, *Energy Storage Materials*, 2018, manuscript in progress.
3) M. Winter, The Solid Electrolyte Interphase—the Most Important and the Least Understood Solid Electrolyte in Rechargeable Li Batteries, *Zeitschrift für Physikalische Chemie*, 2009, **223** (10-11), 1395–1406.

We would like to thank Dr. Pat McCurdy (Central Instrumentation Facility at CSU) for assistance with the SEM-EDS. Funding for this research is provided through NSF SSMC grant #1710672.

