# High-Performance Lithium Metal Anode for High-Energy Batteries

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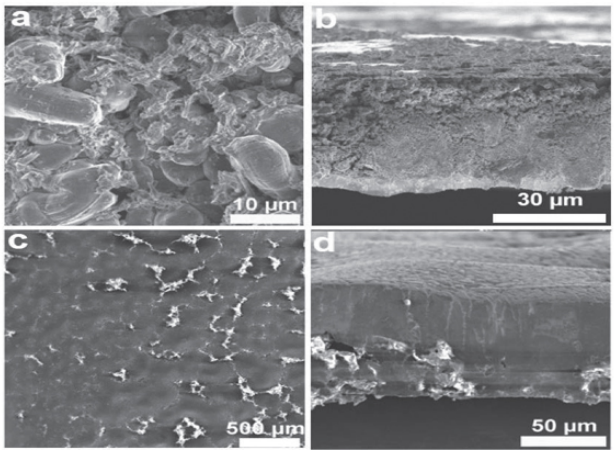


Li Deposits on Cu Foil & Sponge

## Technology Summary

A large scale, commercially viable, three-dimensional sponge-hosted Li metal anode with tunable thickness through electrodeposition. Due to the unique properties of the three-dimensional polymer sponge, uniform Li metal deposition with high CE (>99.2%) can be achieved at high deposition capacity (4 mAh cm-2) and current density (45 mA cm-2) for 500 cycles. Full cells using 3D sponge hosted Li metal anodes will be produced. The overall approach will focus on development and optimization of preparation methods and electrodeposition conditions. This work will also be accompanied by chemical/physical property measurement and characterization (morphology, mechanical properties) for the 3D sponge hosted Li metal, along with cell testing.

## Application & Market Utility

The lithium metal anode proposed here shows lower production cost and better battery performance. Our competitive advantage concerning both price and performance will allow us to bring this advanced research to real-world production of high-performance Li metal anodes and high-energy lithium metal batteries.

## Next Steps

Seeking research collaboration and licensing opportunities.

**TECHNOLOGY READINESS LEVEL** 1-3

**Seeking**

Licensing | Research

**Keywords**

- Battery
- Li metal anode
- Lithium Metal Batteries

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