

# Lithium Batteries using Solid State Electrolytes

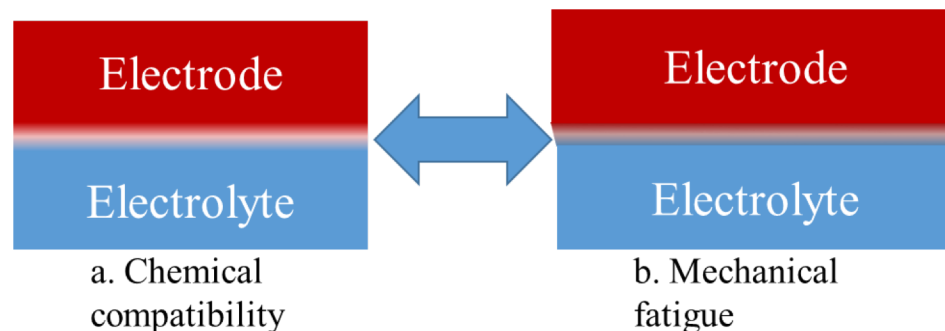
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- **Objective:** To understand and design functional solid/solid interface for long life and high energy density all solid state batteries.

**Impact:**

- To improve the energy density and safety of lithium batteries.
- To enable the safe and durable use of lithium metal electrode.

**Title of Graph/Concept**



This project will be focusing on the interfacial design to improve the chemical stability and mechanical stability of electrode/electrolyte interface for efficient mass transport of lithium ions for all solid state batteries.

**Accomplishments:**

- NEW START

**FY 19 Milestones:**

- Investigating the tetragonal-cubic phase transformation of LLZO electrolyte.
- Investigating the impact of doping on the behavior of tetragonal-cubic phase transformation.
- Initiating the investigation of the chemical stability cathode/LLZO interface.

**FY19 Deliverables:** Publications to report new findings of the kinetic study.

**Funding:**

— FY19: \$433K, FY18: 0, FY17: 0