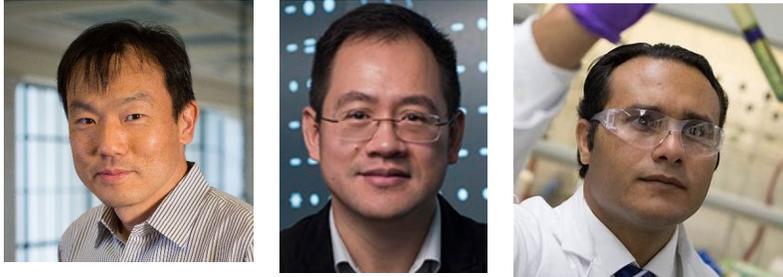


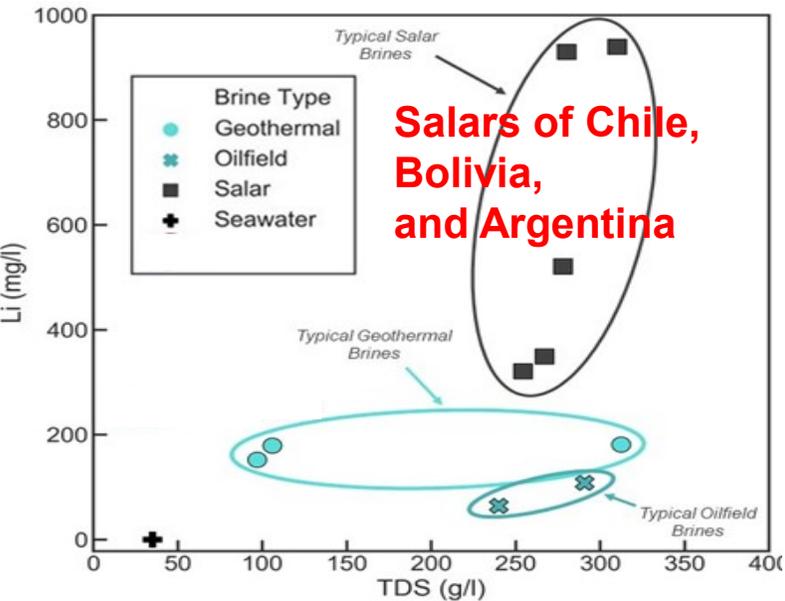
Enhance Lithium Extraction from Geothermal Brine

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This project will develop streamlined Li separation / concentration followed by selective capture recovery technology, enabling more economic Li extraction from geothermal brine.



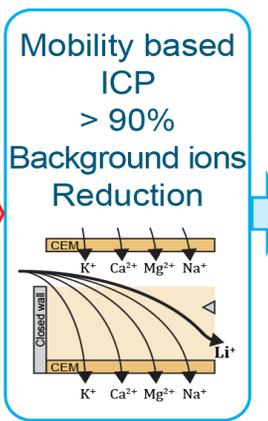
Geothermal brine is harder to extract due to lower Li^+ concentration and presence of other background ions.

[Problem]
Brine in Conventional process.
-Low Li^+
-Yrs Evaporation
-Low LiOH yield

0.0018
0.025 wt.% Li
Geothermal brine

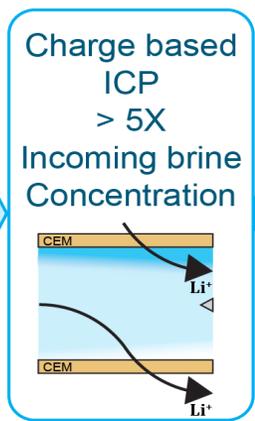
[Innovation #]
Physical approach

[I] Li^+ Direct Enrichment



K^+ , Ca^{2+} , Mg^{2+} , Na^+ stream

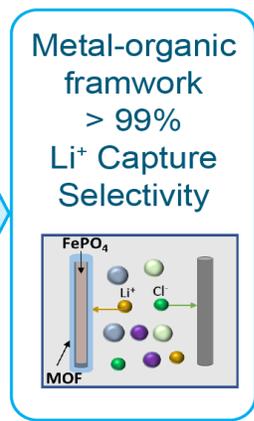
[II] Li^+ Continuous Concentration



Li^+ depleted stream

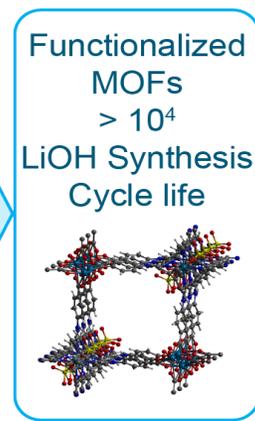
Chemical approach

[III] Li^+ Selective Capture



Competing ions

[IV] LiOH Direct Production



Li^+ depleted stream

[Final Product]

LiOH (Battery-grade)

[Potential Impacts]

- No evaporation: Continuous process from raw brines to LiOH
- No chemical process: Eco-friendly process
- Tunable to any brines
- Direct LiOH production