**Acid Base Blend Membranes for Redox Flow Batteries**

**Reducing Electrolyte Crossover**

Combing polymers with acid and base functionalities moves proton conductivity to a more purely Grotthus mechanism.

Smaller channel/pore sizes suppress vanadium crossover.

Already demonstrated for use in Direct Methanol Fuel Cells.

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**Phase I Objectives**

1. Membranes synthesis (at UT).
2. Measure physical properties of membranes.
3. Test membranes in a single cell flow battery.
4. Model polymer behavior (at UT-A).

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