What's in a Battery?

Course Description: You've seen them in the supermarket checkouts and running too low on cell phones, but how do they actually work? In this course we'll discuss what purpose batteries serve, how a few different types of batteries work, a how they fit into the development of a greener energy system.

Instructor Emily Kerr

Course Logistics: This course will meet on Saturdays for three weeks from 4-5pm starting on Sat, Jul 31.

Course Schedule:

Week 1: What is energy and what does it mean to store it? This week we will focus on the physical mechanisms that allow us to store energy for use as electricity and how these play out in different forms of energy technology including pumped hydro storage, flywheels, pumped air, and batteries.

Week 2: How does a battery work? Today we’ll zoom in on the electrochemistry of batteries at the atomic level and think about what characteristics batteries need for different applications including grid scale storage, transportation storage, and use in portable electronics. We’ll also explore lithium-ion batteries, which are becoming more powerful and affordable and have a wide range of uses.

Week 3: Where do we go from here? In our final week we will focus on the ongoing challenges for battery technology in different applications and look at a few different types of batteries and see how they work.