**Batteries and Fuel Cells – do we really have to choose?**

As the evidence of the impact on climate of rising carbon dioxide levels in the atmosphere continues to accumulate, coordinated research and development efforts between universities, national labs, and industry are increasingly, urgently necessary to accelerate the deployment of low CO2 emission technologies. There are multiple opportunities in different business sectors (transportation, residential, commercial) in terms of both market size and the potential for emission levels reduction. Despite the history of wildly fluctuating funding cycles in government and industry, it is important for both fuel cell and battery research to continue in full force, not least because fuel cell vehicles are in fact hybridized with batteries. After presenting this background, I will describe some highlights from my research in fuel cell technology (7 years) and in Li-ion batteries (6 years). Topics in fuel cells include PGM-free oxygen reduction catalysts and durable electrode structure. As for batteries, I will give an overview of experimental parameterization and validation of continuum models used to improve the performance, safety, and lifetime of Li ion batteries.