Probing Materials Dynamics and Stability during Electrocatalytic Water Splitting

Andrew Akbashev

Department of Materials Science and Engineering, Stanford University

In operando studies of the materials that change the structural and electronic properties during electrochemical reactions provide important guidelines for the design of efficient and inexpensive catalysts. In my talk, I will discuss the microscopic dynamics of materials during electrochemical water splitting. Specifically, I will focus on structural and morphological changes in metal hydroxides and perovskite oxides probed via a combination of *in situ* techniques. I will also show how atomically precise heterostructures can serve as an ideal platform for understanding design rules and engineering activity and stability of oxide electrocatalysts.