Energy Storage Using Electrochemistry

Electrochemistry is used widely today, spanning from production of hydrogen and metals such as aluminum, and Li-ion batteries. We will discuss challenges and opportunities in using electrochemistry to store cheap electrons in materials and molecules with energy from the Sun. Recent learnings towards establishing design principles in controlling electrocatalysis, and ion mobility, central to the functions of electrochemical devices, will be presented.

Professor Shao-Horn is W.M. Keck Professor of Energy at the Massachusetts Institute of Technology (M.I.T.). Her research is centered on exploiting chemical/materials physics to understand and control kinetics and dynamics at interface and in bulk for energy storage and making of sustainable fuels. Professor Shao-Horn is a member of National Academy of Engineering and is among the World’s Most Influential Scientific Minds and Highly Cited Researchers.

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