



**Materials Engineering Program
Texas Center for Superconductivity at Univ. of Houston
Center for Integrated Bio and Nano Systems
10:00 am, Friday, Oct. 6, 2023**

This seminar will be held in **online only mode.**

Zoom:

<https://uh-edu-cougarnet.zoom.us/j/97136580701>

Meeting ID: 971 3658 0701

Lessons from the Characterization of Battery Materials

Dr. Ira Bloom

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Abstract: The characterization of batteries during normal operation and under abusive conditions can teach us a lot about the chemical process occurring in a lithium-ion battery. This talk will describe the results from voltage-fade vs. temperature experiments; from the systematic overcharge of cells; and from leaching experiments. For example, the voltage-fade vs. temperature data, quite unexpectedly, showed that there were two competing processes in operation. One was proportional to the square-root of time and the other, proportional to linear time.

Bio: Dr. Ira Bloom recently retired from Argonne National Laboratory after ~39 years of service. During his last ~20 years, he was intimately involved with the study of battery performance degradation and post-test characterization of battery materials. Some of this work led to the development of the Battery Life Estimator, which is a computer application used by the US Department of Energy and US Advanced Battery Consortium to ascertain progress in their battery development projects. He holds a BS in Chemistry from Brown University (Providence, RI) and a PhD in Inorganic Chemistry from the University of Chicago.