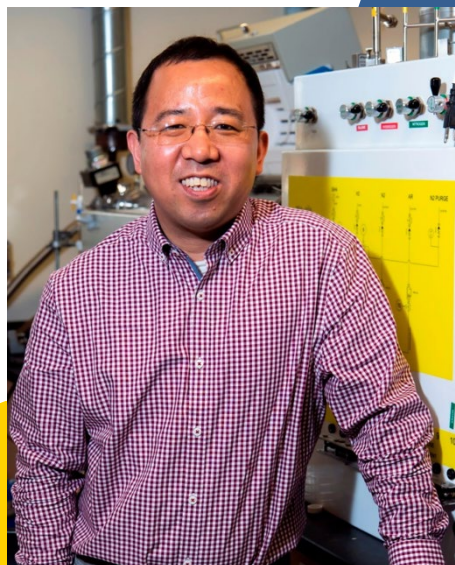




Center for Integrated Catalysis Webinar Series



Prof. Dunwei Wang

Boston College
Department of Chemistry

From Batteries to Synthesis: A Brief Introduction of Electrochemistry and its Utilization in Integrated Catalysis

Abstract: As one of the earliest-developed techniques, electrochemistry has played a foundational role in defining modern chemistry. By interfacing electricity directly with chemicals, it enables on-demand supply or removal of charges, thereby offering facile controls of redox events that can be exploited for a variety of purposes. In this webinar, we will first introduce electrochemistry from a device modern society has grown increasingly reliant on — Li-ion batteries. An examination on how state-of-the-art batteries operate helps us see the key components necessary to support an electrochemical system. It also illustrates the potential issues that require research attention. Similar studies have inspired researchers to capitalize on the unique features of electrochemistry for the purpose of chemical synthesis. Indeed, electrocatalysis has recently grown into a huge field of its own. Pertaining to our Center for Integrated Catalysis, we focus our attention on how to best utilize the specificity enabled by molecular catalysts and interface them with electrochemistry for facile switching of reactivity in an integrated fashion. The end result will be highly complex chemicals that are difficult to make in other means. Examples of electrochemically powered synthesis will be discussed within the context of sustainable materials and energy conversion.

[Click here to receive Zoom details](#)

Tuesday, October 20th 2020

1:00 p.m. | ZOOM