

Sept  
8

DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY COLLOQUIUM  
UTAH STATE UNIVERSITY

2021

*Molecular and Enzymatic Catalysis of Electrochemical Reactions*

*Electrochemistry is one of the best approaches to electron transfer chemistry. Electrochemical oxidation and reduction reactions can lead to stable products without structural changes or trigger drastic changes in molecules important for chemical conversion efforts, with potential applications ranging from fuel cells to biomass utilization and fine-chemical synthesis.*

*Furthermore, one of the most powerful technologies in chemical and biological sensors is the transduction of a particular molecule's recognition into an electrochemical signal. However, an electrochemical reaction might be slow and not sufficiently selective. This talk will discuss two approaches to overcome these limitations by using molecular and biological catalysts, i.e., enzymes. Besides broadening the scope of electrochemical reactions, these approaches can also provide important information about the catalytic mechanisms. Specifically, we will discuss the development of molecular catalysts for electrochemical alcohol oxidation, electrochemical mechanistic studies of nitrogenase-catalyzed  $N_2$ -to- $NH_3$  reduction, and the application of enzymes for electrochemical biosensors.*

4-5PM (MDT) | ESLC, Room 046 | Zoom

<https://usu-edu.zoom.us/j/89128547168?pwd=U0ZEUHN4Y0E2YUIxQ2ZRWXJERW9udz09>

Zoom Meeting ID: 891 2854 7168

Zoom Passcode: 641921

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