

Growth of Conductive Reduced Molybdenum Oxides and Electrochemical Applications

by *Dai Haiwen*

Date: 18 Dec 2019 (Wednesday)

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Venue: E3-06-11

Abstract

Central to the move of electrical water splitting is a highly efficient electrocatalyst system. One challenge that hinders the activity is the sluggish charge transport in active semiconductive transition metal compounds. In this presentation, a series of reduced molybdenum oxides have been explored and proposed as efficient secondary electrochemical support for a more efficient charge transport process. The preparation, structure and electrical properties of reduced molybdenum oxides have been systematically studied. A collection of highly crystalline micro- and nanostructured molybdenum oxides is reported, and highly conductive hole carrier lateral molybdenum dioxides were achieved. The molybdenum dioxides were incorporated into semiconductive nickel sulfide system and demonstrated significantly higher activity for hydrogen evolution. The integration of MoO₂ improves the microlevel charge transport and provides a new strategy for non-conductive electrocatalyst engineering.

Speaker *Dai Haiwen*

Biography

Mr. Dai Haiwen is currently a Ph.D. student in Department of Materials Science and Engineering under A/P Chua Hock Chuan, Daniel. He received his Bachelor's degree from University of Science and Technology Beijing, Department of Materials Science and Engineering. His research interest is the CVD fabrication of reduced molybdenum oxide and its applications.

ALL ARE WELCOME!

Host Prof Ding Jun