Department of Materials Science and Engineering Seminar Series 2025

Tuning of Catalytic Properties of MoS_2 by Doping and Defect Formation

Lin Mo

Date and time: 18 February 2025, 4PM – 6PM

Venue: S9, Level 9 conference room

Abstract

The pursuit of high-efficiency catalytic systems has spurred innovations in tailoring the structural and electronic properties of two-dimensional (2D) materials through advanced synthesis techniques. As a member of 2D material, molybdenum disulfide (MoS_2) is facile, stable, non-toxic, affordable, and have exhibit its superior potential in catalysis.

In my PhD defense, I will focus on the rational design of MoS_2 catalysts via chemical vapor deposition (CVD), particularly in their applications as hydrogen evolution reaction and CO_2 hydrogenation to methane. By bridging nanoscale structural control with macroscopic catalytic performance, we aim to establish CVD-synthesized MoS_2 as a scalable platform for next-generation catalytic technologies.

Biography

LIN MO received his B.Sc. degree from University of Chinese Academy of Science. He is currently a Ph.D. candidate in the Department of Materials Science and Engineering under the supervision of Assoc. Prof. Daria Andreeva-Baeumler and Prof. Sir Konstantin Sergeevich Novoselov. His research focuses on tuning the catalytic activity of MoS_2 and other 2D Materials

Please join us!

HOST: Prof Ding Jun