Title: Development of Earth-abundant catalytic materials for water splitting

Abstract:
Sunlight-driven water splitting to make hydrogen is a promising method to store solar energy. Water splitting requires catalysts for both the hydrogen evolution reaction (HER) and the oxygen evolution reaction (OER). In this talk, I will present our developments of several new classes of water splitting catalysts such as amorphous molybdenum sulfides for HER and various metal hydroxides for OER. These catalysts have been integrated into photoelectrochemical devices yielding benchmark performance.

Bio:
Xile Hu obtained a B.S. degree from Peking University in June 2000 and a Ph.D degree under the guidance of Prof. Karsten Meyer from the University of California, San Diego in December 2014. From February 2005 to June 2007, he conducted postdoctoral study in the group of Prof. Jonas C. Peters at the California Institute of Technology. In July 2007, he was appointed as a tenure-track assistant professor of chemistry at the École Polytechnique Fédérale de Lausanne (EPFL) in Switzerland. He is the founder and director of the Laboratory of Inorganic Synthesis and Catalysis. His laboratory is developing catalysts made of Earth-abundant elements for chemical transformations pertinent to synthesis, energy, and sustainability. He was promoted to associate professor in January 2013 and full professor in June 2016.