



e-conversion



Seminarankündigung

**Dienstag, 9. Juli 2019
13:00 Uhr**

WSI, Seminarraum S 101

“Small polarons in metal oxide photoelectrodes”

Abstract: Transition-metal oxides are a promising class of semiconductors for photoelectrochemical oxidation reactions; processes that underpin clean hydrogen production via water splitting and carbon dioxide reduction. However, these materials are limited by very slow charge transport. This is because, unlike conventional semiconductors, material aspects of metal oxides favour the formation of slow-moving, self-trapped charge carriers: small polarons. In this talk, I will highlight the salient features of small-polaron transport in metal oxides, offer guidelines for their experimental characterisation, and present single crystal transport studies of a prototypical oxide photo-anode: bismuth vanadate (BiVO₄). Future directions to build a full picture of charge transport and electronic structure in this family of materials will be discussed.

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