

Prof. Waterman, Rory (Univ. of Vermont, U.S.A.)

産総研触媒化学融合研究センターでは、様々な分野で活躍している大学、公的研究機関、企業等の方々をお招きして、講演会を開催することで分野の垣根を越えた連携の実現を目指しています。  
多くの方々のご参加をお待ちしております。

日時: 2023年4月18日(火) 15:00~16:00

場所: 第4会議室(6603室)

## &lt;講演概要&gt;

15:00~16:00

**Advances in Catalytic Hydrophosphination**

## &lt;講師&gt;

Univ. of Vermont, U.S.A.  
Prof Waterman, Rory

A family of earth abundant, highly active, and selective catalysts have been discovered and investigated with photolysis being a critical factor in activity. The arc of catalysis moves from zirconium to iron and titanium chemistry that informs most recent discoveries in simple copper catalysts that may be the most active known. For example,  $\text{Cu}(\text{acac})_2$  is an active catalyst for the hydrophosphination of alkenes and alkynes with primary and secondary phosphines. At ambient temperature with irradiation centered at 365 nm, conversions with  $\text{Cu}(\text{acac})_2$  are remarkable with some reactions complete in minutes. The photocatalysis is hypothesized to proceed by excitation to a low-lying orbital with M-P antibonding character, weakening that bond to avail faster insertion.