

## ENERGYPOLIS SEMINAR

05. 04. 2016, 16:00 - 17:00, ENERGYPOLIS Sion, 4<sup>th</sup> floor, Seminar room

### Hydrodeoxygenation on transition metal phosphides

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Transition metal phosphides are an interesting option as catalyst for hydrodefunctionalization of biomass derived molecules, intrinsically more active than sulfides and more poison tolerant than most base or noble metals<sup>[1]</sup>. As newer synthesis methods have replaced the old high temperature routes, a wider variety of catalytic materials has become available<sup>[2]</sup>. In order to explore catalytic properties beyond the frequently tested NiP, a series of phosphide materials (W, Mo, and Ni) was prepared by a novel route based on the addition of citric acid in the synthesis and explored with respect to the hydrodeoxygenation of palmitic acid as a model compound for algae based feedstocks.

#### References:

- [1] Prins, R., Bussell, M. E., Catal. Lett. 142, 1413 (2012).
- [2] Soled, S., Miseo, S., Baumgartner J., Guzman, J. "Can Ni Phosphides Become Viable Hydroprocessing Catalysts?" paper presented at the 23rd North American Meeting of the North American Catalysis Society (NAM), Kentucky, USA, 2013.



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Born 28/04/1990. 06/2013: Bachelor Degree in Environmental Engineering, Zhejiang University, China. 04/2015: Joint Master Degree in Industrial Chemistry, National University of Singapore & Technical University of Munich. 05/2015-10/2015: Employed as a research assistant in the Department of Chemistry and Catalysis Research Center, Technical University of Munich. 11/2015-: Research work in Cardiff University, UK, in the research field of Hydroxymethylfurfural oxidation on gold nanoparticles.