

ICB PhD public presentations**SYNTHESIS, CHARACTERIZATION
AND MECHANISM STUDY OF
MESOPOROUS ZEOLITE AND
HOLLOW ZEOLITE****Teng Li**

The van Bokhoven Group

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HCI D 2, 14.30 h

Project Summary: Zeolites are the catalytic workhorses of the refinery and chemicals production industry. The sole presence of micropores with molecular dimension leads to the issue of diffusion limitation of large molecules. Post-synthetic treatment of zeolites is an efficient way to introduce mesopores and macropores to zeolites. Recently, nanoscale zeolite crystals with hollow structure attract a lot of attention since they are promising catalytic support. Active species, including metals, oxides and alloys, can be trapped in the big cavity of hollow zeolites and as such they suffer less from sintering or leaching. Moreover, the inherent acidity and shape-selectivity of zeolites also provide additional advantages. The scope of this project is to tune meso/macro-pore formation in zeolite, to characterize compositional and structural properties that are related to meso/macro-pore formation, and to disclose the link between synthesis and post-synthesis of zeolite.

CV: Teng received his B.Sc and M.Sc in Chemical Engineering and Technology from China University of Petroleum, with internship experience at Sinopec. From 09.2015, he started his PhD studies in the group van Bokhoven at ETH, working on zeolite synthesis and modification.