

## Bachelor/Master Thesis

### Mechanical stability of ordered mesoporous silica

Ordered mesoporous silica has shown good catalytic performance when used as catalyst support material for the catalytic system  $\text{Mn-Na}_2\text{WO}_4/\text{SiO}_2$  in the Oxidative Coupling of Methane (OCM). This project is focused on studying the mechanical stability of ordered mesoporous silica. The work is part of the Cluster of Excellence "UniCat".

Ordered mesoporous silica powders will be pressed, grinded and hydrothermally tested to obtain information regarding its mechanical stability.

Methods and techniques that will be used:

- Pressing
- Grinding of pressed samples
- Hydrothermal processing at high temperatures
- Determination of the specific surface area and pore size using nitrogen adsorption (BET)
- Determination of pore ordering using small-angle X-ray spectroscopy (SAXS)
- Scanning electron microscopy (SEM)

The candidate will be assisted during the project. Master students with excellent course achievements (*mit exzellenten Studienleistungen*) have the possibility to apply for a fellowship.

If you wish more information about the project please contact:

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