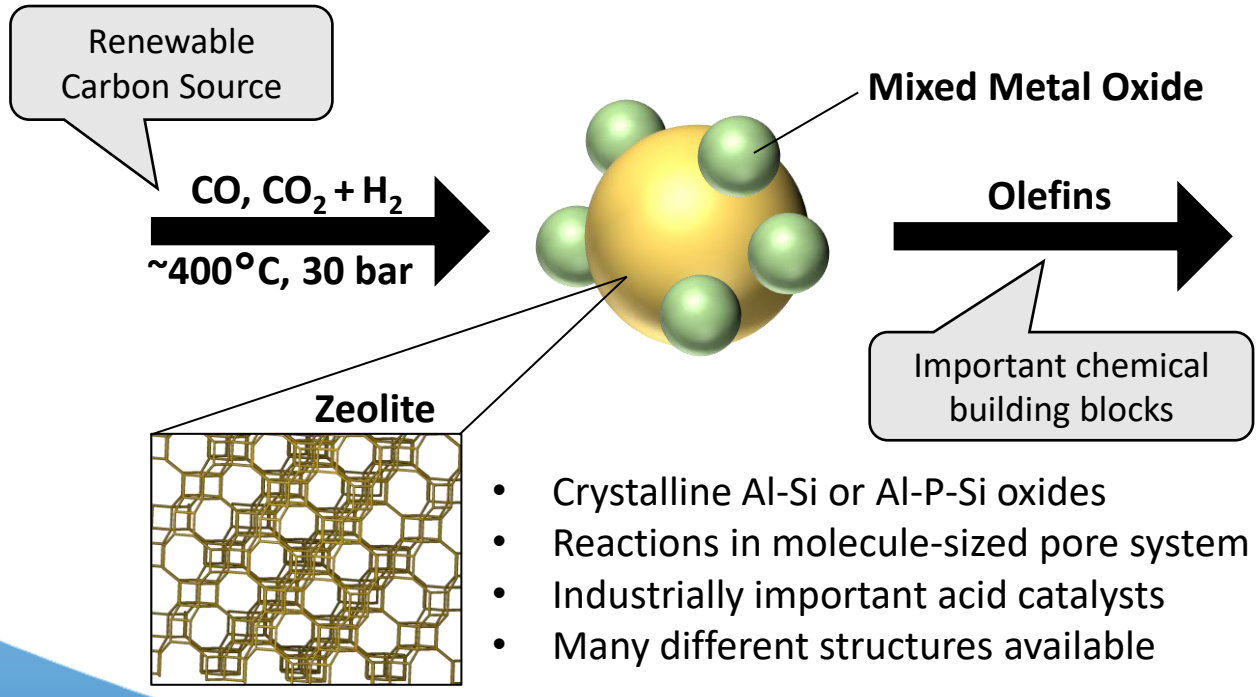
Open Position in the **Catalyst Design and Reaction Engineering Group (CADRE)**

Tandem Heterogeneous Catalysts for CO and CO_2 Conversion to Key Chemicals: The Zeolite Part (Master Thesis)

Syngas is a key ingredient to become independent of crude oil. Olefins are one of the most important industrial building blocks. Syngas can be converted into olefins in gas-phase reactions over special bifunctional catalysts: **mixed-metal oxides particles combined with zeolites.** Both parts of the catalyst are crucial, as they fulfill unique roles in the underlying tandem reaction mechanism.

In this thesis, these catalysts will be **designed and synthesized** with special focus on the **zeolite function**. Then, their **catalytic performance** will be evaluated under near industrial conditions in a lab-scale micro-reactor.



- Crystalline Al-Si or Al-P-Si oxides
- Reactions in molecule-sized pore system
- Industrially important acid catalysts
- Many different structures available

Sustainability – Nano-Tailored Materials – Chemical Building Blocks

CADRE website

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