

## Design of hierarchical zeolite catalysts – where pore and active site quality meet

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This lecture overviews recent progress towards the design of hierarchically-structured zeolites for application in catalysis. I will illustrate the benefits attained due to the improved access and molecular transport in zeolite crystals with auxiliary pore networks, emphasizing recent advances that contribute to the integral design of these materials for established and new catalytic processes. This includes preparative aspects by strategic post-synthetic modifications, the development of advanced characterization tools to assess descriptors, and the transition from laboratory practices with powders to the multi-ton scale up and structuring of the hierarchical zeolites into technical form. Current needs and future directions will be discussed.

### References

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