

DSM Science & Technology Awards (SOUTH) 2009	
Name	Stephan J. Reitmeier
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Porous solids such as molecular sieves are at the heart of modern heterogeneous catalysis and widely utilized within large scale industrial chemical processes. Obviously, even slight improvements of the catalysts performance enable strongly increased efficiencies and thus huge economic benefits. However, in order to allow step-out advances in catalyst design, overcoming currently driven empirical approaches, a molecular understanding of hydrocarbon transport is unambiguously important. The research project of Stephan J. Reitmeier is situated at the interface of Physical and Technical Chemistry and precisely unravels the complex network of sorption and transport steps on zeolite H-ZSM5 on a molecular level. His results allow future well-defined tailoring of shape selective properties and thus an efficient and sustainable catalyst usage. Moreover, the hierarchical composite materials obtained by external surface modification and for the first time revealing distinct sorption enhancement effects, open up a promising novel concept to achieve highly selective separation.