

Einladung zum V O R T R A G

“Catalytic Asymmetric Reactions of Resonance-Stabilized Cations“

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HS BMT

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Stremayrgasse 16, EG

Abstract:

Asymmetric synthesis of enantiomerically highly enriched compounds ideally with a chiral catalyst is fundamental to providing pharmaceutically active compounds for medicinal applications. In this lecture our recent work will be outlined on asymmetric, phosphoric acid-catalyzed reactions of various resonance-stabilized benzyl cations to access a plethora of benzannulated oxygen and nitrogen heterocycles with remarkable efficiency and selectivity. Scope and limitations of this strategy as well as mechanistic aspects will be discussed in detail.

In the second part of the lecture an unprecedented umpolung strategy with resonance-stabilized 1-allyl cations will be presented which furnishes 1,4-(hetero)dicarbonyl compounds. With the use of sterically confined, chiral silylium ion catalysts at very low catalyst loadings (1 mol %) products carrying up to two new stereogenic centers have been obtained with excellent yields and up to 99:1 e.r. In addition, they have been shown to be ideal precursors to medicinally active compounds.

CV: Christoph Schneider (*1963) studied chemistry at the University of Göttingen (Germany), where he completed his PhD in 1992 under the supervision of Prof. Lutz F. Tietze. After a postdoctoral research stay with Prof. David A. Evans at Harvard University (USA) he started his independent research at the University of Göttingen (Germany) finishing his habilitation in 1998. Since 2003 he is full professor at the University of Leipzig. He has been Visiting Professor at the University of Szeged (Hungary) and the University of Toronto (Canada).