FAKULTÄT FÜR CHEMIE

universität wien

Einladung zum Vortrag von

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"Sustainable Nanoreactors for Renewable Energy Application"

Nanoreactors are a form of chemical reactor that are particularly in the disciplines of nanotechnology and nanobiotechnology. These special reactors are crucial in maintaining a working nanofoundry, which is essentially a foundry that manufactures products on a nanotechnological scale. In this presentation, I will discuss our recent progress toward design of smart nanoreactors for energy applications. The high activities of yolk/shell catalysts have been attributed to the freely movable core catalysts, the hollow space between the core and shell, and the protective shells, which provide a homogenous environment for a heterogeneous catalysis. We have developed novel strategies for the synthesis of yolk-shell structured nanoreactors with controllable sizes, compositions, geometries, structures and functionalities. At the meantime, the facile synthesis of a yolk–shell catalyst with isolated acidic and basic active sites in one particle (YS-NH2@SO3H) was also realised. More importantly, many applications have also been explored (e.g. enzyme catalysis, oxidation of alcohols, cascade reaction) showing the industrial importance of these materials. We have also been working on design and synthesis of various nanoporous carbon spheres (NCSs) (including novel microporous carbon spheres, mesoporous carbon spheres, core shell and yolk shell carbon spheres with hierarchical porous structures) with high monodispersity, defined size and orientation of pores, tunable surface area, and controlled surface properties and structural ordering.

Donnerstag, 17. Mai 2018, 15:15 Uhr
Seminarraum 2 der Fakultät für Chemie
Währinger Straße 42, 1090 Wien

Freddy Kleitz
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Veronika Somoza Vizedekanin	Bernhard Keppler Dekan	Lothar Brecker Vizedekan