

SCIENTIFIC CONTRIBUTIONS

dr. Shilpa Agarwal

Refereed articles

10. Exploratory catalyst screening studies on the liquefaction of model humins from C6 sugars.
Y. Wang, **S. Agarwal**, Z. Tang, & H. J. Heeres
RSC Adv. **7**, 5136-5147 (2017)
9. Catalytic pyrolysis of recalcitrant, insoluble humin byproducts from C6 sugar biorefineries
S. Agarwal, D. S. van Es, & H. J. Heeres
J. Anal. Appl. Pyrol. **123**, 134-143 (2017)
8. Experimental Studies on the Hydrotreatment of Kraft lignin to Aromatics and Alkylphenolics using economically viable Fe-based catalysts
S. Agarwal, R. K. Chowdari, I. Hita & H. J. Heeres
ACS Sustainable Chem. Eng., doi: 10.1021/acssuschemeng.6b03012 (2017)
7. Catalytic Liquefaction of Humin Substances from Sugar Biorefineries with Pt/C in 2-propanol
Y. Wang, **S. Agarwal**, & H. J. Heeres
ACS Sustainable Chem. Eng. **5**, 469-480 (2017)
6. Catalytic hydrotreatment of Humins in mixtures of Formic Acid/2-Propanol with supported Ru catalysts
Y. Wang, **S. Agarwal**, A. Kloekhorst, & H. J. Heeres
ChemSusChem **9**, 951-961 (2016)
→ Selected for **front cover** graphic.
5. The effects of morphology of cerium oxide catalysts for dehydrogenation of ethylbenzene to styrene
M. Kovacevic, **S. Agarwal**, B. L. Mojet, Jan G. van Ommen & L. Lefferts
Appl. Catal. A **505**, 354–364 (2015)
4. Surface-Dependence of Defect Chemistry of Nano-Structured Ceria
S. Agarwal, X. Zhu, E. J. M. Hensen, L. Lefferts, & B. L. Mojet
J. Phys. Chem C **119**, 12423–12433 (2015)
3. Defect chemistry of ceria nanorods
S. Agarwal, X. Zhu, E. J. M. Hensen, L. Lefferts, & B. L. Mojet
J. Phys. Chem C **118**, 4131–4142 (2014)
2. Exposed surfaces on shape controlled ceria nanoparticles revealed via ACTEM and water gas shift reactivity
S. Agarwal, L. Lefferts, B. L. Mojet, D. A. J. M. Ligthart, E. J. M. Hensen, D. R. G. Mitchell, W. J. Erasmus, B. G. Anderson, E. J. Olivier, J. H. Neethling, & A. K. Datye
ChemSusChem **6**, 1898–1906 (2013)
1. Ceria Nanocatalysts: Shape Dependent Reactivity and Formation of OH
S. Agarwal, L. Lefferts, & B. L. Mojet
ChemCatChem **5**, 479–489 (2013)

Book chapter

Ceria nanoshapes: structural and catalytic properties

S. Agarwal, B. L. Mojet, L. Lefferts, & A. K. Datye

→ Invited review for book chapter: Catalysis by Materials with Well-Defined Structures, Elsevier 31-70 (2015) ISBN: 978-0-12-801217-8

Phd Thesis

Surface chemistry of tailored ceria nanoparticles: Interaction with CO and H₂O
University of Twente, Enschede (2014)
ISBN: 978-90-365-3641-7, doi: 10.3990/1.9789036536417

Other

- 11 oral presentations at (inter)national conferences
- 8 poster presentations (including winning poster prize) at (inter)national conferences
- 6 (inter)national workshops