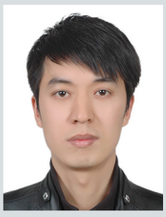

Xuezhi Duan

Department: School of Chemical Engineering
Professional field: Chemical Engineering and Technology
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Profile

Education

2012: PhD, Chemical Engineering, East China University of Science and Technology

2007: BE, Chemical Engineering and Technology, Xiangtan University.

Academic Experience

2017.09-present, Professor, ECUST.

2015.11-2017.08, Lecture and Associate Professor, ECUST.

2013.11-2015.11, Postdoc, NTNU.

2012.03-2013.11, Postdoc, ECUST.

Non-academic Experience

2018.05-present, Deputy Director, State Key Laboratory of Chemical Engineering (Shanghai).

Research Field

Catalytic Reaction Engineering: By means of kinetic (isotope) analysis, combined with experimental studies, DFT calculations and structural characterization of advanced catalysts, we are committed to the development of kinetic-assisted rational design of catalysts and reactor development and scale-up

Research results and selected published papers

(1).Wenyao Chen, Jian Ji, Xiang Feng, Xuezhi Duan, Gang Qian, Ping Li, Xinggui Zhou, De Chen*, Weikang Yuan. Mechanistic insight into size-dependent activity and durability in Pt/CNT catalyzed hydrolytic dehydrogenation of ammonia borane. J. Am. Chem. Soc. 2014, 136: 16736-16739.

(2).Hongliang Jiang, Yunxiang Lin, Bingxu Chen, Youkui Zhang, Hengjie Liu, Xuezhi Duan, De Chen, Li Song*. Ternary interfacial superstructure enabling extraordinary hydrogen evolution electrocatalysis. Materials Today 2018, DOI: 10.1016/j.mattod.2018.01.033

(3).Xuezhi Duan, Yanfang Zhang, Minjian Pan, Hua Dong, Bingxu Chen, Yuanyuan Ma, Gang Qian*, Xinggui Zhou, Jia Yang, De Chen*. SbOx-promoted Pt nanoparticles supported on CNTs as catalysts for base-free oxidation of glycerol to dihydroxyacetone. AIChE J. in press.

(4).Wenyao Chen, Dali Li, Zijun Wang, Gang Qian, Zhijun Sui, Xuezhi Duan, Xinggui Zhou, Isaac Yeboah, De Chen*. Reaction mechanism and kinetics for hydrolytic dehydrogenation of ammonia borane on a Pt/CNT catalyst. AIChE J. 2017, 63: 60-65

(5).Di Wang, Jian Ji, Bingxu Chen, Wenyao Chen, Gang Qian, Xuezhi Duan, Xinggui Zhou, Anders Holmen, De Chen*, John C Walmsley. Novel Fe/MnK - CNTs nanocomposites as catalysts for direct production of lower olefins from syngas. AIChE J. 2017, 63: 154-161.

(6).Wenyao Chen, Zijun Wang, Xuezhi Duan, Gang Qian, De Chen, Xinggui Zhou. Structural and kinetic insights into Pt/CNT catalysts during hydrogen generation from ammonia borane. Chem. Eng. Sci. 2017, DOI: 10.1016/j.ces.2017.05.056

(7).Bingxu Chen, Di Wang, Xuezhi Duan, Wei Liu, Yefei Li, Gang Qian, Weikang Yuan, Anders Holmen, Xinggui Zhou, De Chen*. Charge-tuned CO activation over a χ-Fe5C2 Fischer-Tropsch catalyst. ACS Catal. 2018, 8: 2709-2714

(8).Thanh Hai Pham, Yangying Qi, Jia Yang, Xuezhi Duan, Gang Qian, Xinggui Zhou, De Chen, Weikang Yuan. Insights into Hägg iron carbide catalyzed Fischer-Tropsch synthesis: Suppression of CH4 formation and enhancement of C-C coupling on χ-Fe5C2(510). ACS Catal. 2015, 5: 2203-2208.

(9).Wenyao Chen, Dali Li, Chong Peng, Gang Qian, Xuezhi Duan, De Chen, Xinggui Zhou. Mechanistic and kinetic insights into the Pt-Ru synergy during hydrogen generation from ammonia borane over PtRu/CNT nanocatalysts. J. Catal. 2017, 356: 186-196.

(10).Wenyao Chen, Jian Ji, Xuezhi Duan, Gang Qian, Ping Li, Xinggui Zhou. Unique reactivity in Pt/CNT catalyzed hydrolytic dehydrogenation of ammonia borane. Chem. Commun. 2014, 50: 2142-2144.

(11).Xiangping Zhou, Jian Ji, Di Wang Xuezhi Duan, Gang Qian, De Chen, Xinggui Zhou. Hierarchical structured α-Al2O3 supported S-promoted Fe catalysts for direct conversion of syngas to lower olefins. Chem. Commun. 2015, 51: 8853-8856.

(12).Wenyao Chen, Xuezhi Duan, Gang Qian, De Chen*, Xinggui Zhou. Carbon nanotubes as support in the platinum-catalyzed hydrolytic dehydrogenation of ammonia borane. ChemSusChem 2015, 8: 2927-2931.

(13).Di Wang, Xiangping Zhou, Jian Ji, Xuezhi Duan, Gang Qian, Xinggui Zhou, De Chen, Weikang Yuan. Modified carbon nanotubes by KMnO4 supported iron Fischer-Tropsch catalyst for the direct conversion of syngas to lower olefins. J. Mater. Chem. A 2015, 3: 4560-4567.

(14).Xuezhi Duan, Jian Ji, Gang Qian*, Xinggui Zhou, De Chen*. Recent advances in synthesis of reshaped Fe and Ni particles at the tips of carbon nanofibers and their catalytic applications (Invited Review). Catal. Today 2015, 249: 2-11.

(15).Di Wang, Bingxu Chen, Xuezhi Duan, De Chen, Xinggui Zhou. Iron-based Fischer-Tropsch synthesis of lower olefins: The nature of χ-Fe5C2 catalyst and why and how to introduce promoters (Invited Perspective). J. Energy Chem. 2016, 25: 911-916.