

# Curriculum Vitae

## **I. Basic Information**

### **Dr. Zhennan Han**

Job Title: Assistant professor of Institute of Industrial Chemistry and Energy Technology, Shenyang University of Chemical Technology, P.R. China  
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## **II. Education**

### **09/2012-06/2017, Doctoral Course**

Institute of Process Engineering, Chinese Academy of Sciences, China

Degree: Doctor in Engineering

Main research: Fluidized bed decoupling combustion and fluidized bed two-stage gasification

### **09/2008-07/2012, College education**

Department of Chemical Engineering, Zhengzhou University, China

Degree: Bachelor in Engineering

## **III. Work Experience**

### **09/2017-present, Assistant professor**

Institute of Industrial Chemistry and Energy Technology, Shenyang University of Chemical Technology, China

## **IV. Research area**

### **Thermochemical conversion**

Coal pyrolysis for liquid, Coal gasification for fuel gas, Biomass waste combustion and carbonization for energy and bio-carbon materials, Calcination of magnesite.

### **Fluidization and gas-solid flow**

Fluidized bed reactor for fuel thermal conversion, synthesis, calcination, reaction analysis and so on.

### **Reaction analysis**

Reaction analysis and kinetics using micro fluidized bed

## **V. Award and Honors**

2018, Second Class Prizes of The State Scientific and Technological Progress Award by the China Alcoholic Drinks Association: "Fluidized bed decoupling combustion of distilled spirit lees and its industrial application"

2018, Youth Commission of Engineering Thermochemistry Committee, Chemical Industry and Engineering Society of China

## Publications

1. Zhennan Han, Xi Zeng, Changbin Yao, Guangwen Xu, 2015, Oxygen Migration in Torrefaction of *Eupatorium adenophorum* Spreng. and Its Improvement on Fuel Properties, *Energy & Fuels*, 29: 7275-7283.
2. Zhennan Han, Xi Zeng, Changbin Yao, Yin Wang, Guangwen Xu, 2016, Comparison of Direct Combustion in a Circulating Fluidized Bed System and Decoupling Combustion in a Dual Fluidized Bed System for Distilled Spirit Lees, *Energy & Fuels*, 30: 1693-1700.
3. Yu Zhang, Zhennan Han, Hao Wu, Dengguo Lai, Peter Glarborg, Guangwen Xu, 2016, Interactive Matching between Temperature Profile and Secondary Reactions of Oil Shale Pyrolysis, *Energy & Fuels*, 30: 2865-2873.
4. Yutthasin Bunman, Hai-Sam Do, Xi Zeng, Zhennan Han, Shiqiu Gao, Guangwen Xu, 2017, NO reduction by different tar agents and model compounds in a drop-tube reactor, *Fuel Processing Technology*, 172: 187-194.
5. Lanxin Lin, Dengguo Lai, Zhen Shi, Zhennan Han, Guangwen Xu, 2017, Distinctive oil shale pyrolysis behavior in indirectly heated fixed bed with internals. *Rsc Advances*, 7 (35): 21467-21474.
6. Zhennan Han, Sulong Geng, Xi Zeng, Shipei Xu, Ping An, Jiguang Cheng, Jun Yang, Feng Li, Suyi Zhang, Miao Liu, Guoqing Guan, Guangwen Xu, 2018, Reaction decoupling in thermochemical fuel conversion and technical progress based on decoupling using fluidized bed, *Carbon Resources Conversion*, 1(2): 109-125
7. Shipei Xu, Zhennan Han, Rongcheng Wu, Jiguang Cheng, Guangwen Xu, 2018, Correlating micro/meso pore evolution and chemical structure variation in a mild thermal treatment of a subbituminite, *RSC Advances*, 8(18): 9754-9761.
8. Sulong Geng, Zhennan Han, Junrong Yue, Yunjia Li, Xi Zeng, Dengguo Lai, Jian Yu, Guangwen Xu, 2018, Conditioning micro fluidized bed for maximal approach of gas plug flow, *Chemical Engineering Journal*, 351: 110-118.
9. Sulong Geng, Zhennan Han, Yan Hu, Yanbin Cui, Junrong Yue, Jian Yu, Guangwen Xu, 2018, Methane Decomposition Kinetics over  $\text{Fe}_2\text{O}_3$  Catalyst in Micro Fluidized Bed Reaction Analyzer, *Ind. Eng. Chem. Res.*, 57(25): 8413-8423.
10. Yanan Qian, Zhennan Han, Jin-Hui Zhan, Xiaoxing Liu, Guangwen Xu, 2018, Comparative evaluation of heat conduction and radiation models for CFD simulation of heat transfer in packed beds, *International Journal of Heat and Mass Transfer*, 127: 573-584.
11. Xi Zeng, Fang Wang, Zhennan Han, Yanlin Sun, Yanbin Cui, Guangwen Xua, 2018, Characterization and pilot scale test of a fluidized bed two-stage gasification process for the production of clean industrial fuel gas from low-rank coal, *Carbon Resources Conversion*, 1(1): 73-80.
12. Somprasong Siramard, JinHui Zhan, Zhennan Han, Shipei Xu, Ondřej Mašek, Guangwen Xu, 2018, Secondary cracking of volatile and its avoidance in infrared-heating pyrolysis reactor, *Carbon Resources Conversion*, 1(3): 202-208.
13. Hai-Sam Do, Yutthasin Bunman, Zhennan Han, Xi Zeng, Shiqiu Gao, Guangwen Xu, 2018, Synergetic NO reduction by biomass pyrolysis products simulating their Reburning in circulating fluidized bed decoupling combustion, *Chinese Journal of Chemical Engineering*.