



Profile

Xingjun Wang, Associate Professor, Master's tutor. In 2005, he received his doctorate from East China University of Science and Technology, and was selected as an Associate Professor in 2007. In 2015, he went to the University of Wyoming to conduct research on visiting scholars. The main research direction is the deep processing of syngas and catalytic gasification, and the development of catalysts and processes for Fischer Tropsch synthesis, methanation and catalytic gasification, as well as the research on reaction mechanism. More than 40 SCI papers have been published and 20 invention patents have been authorized.

Research Field

Deep processing of syngas and catalytic gasification

Research results and selected published papers

- (1) Xingjun Wang, Maohong Fan, Xin Huang, Mingchen Tang, Guangsuo Yu, Haifeng Liu, Fuchen Wang, Hertanto Adidharma, Khaled A.M. Gasem, Maciej Radosz. High-performance nano-structured Ni based catalysts for high-temperature CO₂-CH₄ reforming—Greenhouse gases to syngas. *Catalysis Today*. 2020, 339:344–351
- (2) Wang Xingjun, Kui Yao, Xin Huang, Xueli Chen, Guangsuo Yu, Haifeng Liu, Fuchen Wang, Fan Maohong. Effect of CaO and biomass ash on catalytic hydrogasification behavior of coal char. *Fuel*. 2019, 249: 103–111
- (3) Xin Huang, Maohong Fan, Xingjun Wang, Yonggang Wang, Morris D. Argylef, Yufei Zhu. A cost-effective approach to realization of the efficient methane chemical-looping combustion by using coal fly ash as a support for oxygen carrier. *Applied Energy*. 2018, 230:393–402
- (4) Zhu Huaili, Wang Xingjun, Wang Fuchen, Yu Guangsuo. In situ study on K₂CO₃ catalyzed CO₂ gasification of coal char: interactions and char structure evolution. *Energy & Fuel*. 2018, 32: 1320-1327
- (5) Zhu Huaili, Yu Guangsuo, Guo Qinghua, Wang Xingjun. In situ Raman spectroscopy study on catalytic pyrolysis of a bituminous coal. *Energy & Fuel*. 2017, 31: 5817-5827
- (6) Xin Huang, Xingjun Wang, Maohong Fan, Yonggang Wang, Hertanto Adidharma, Khaled A.M. Gasem, Maciej Radosz. A cost-effective approach to reducing carbon deposition and resulting deactivation of oxygen carriers for improvement of energy efficiency and CO₂ capture during methane chemical-looping combustion. *Applied Energy*. 2017, 193: 381-392
- (7) Zhu Huaili, Wang Xingjun, Chen Xueli, Yu Guangsuo. Effect of biomass char additives on the hydrogasification behavior of a bituminous coal. *Bioresources*. 2016, 11: 9002-9016
- (8) Ye Sun, Xingjun Wang, Zhenghua Dai, Guangsuo Yu, Fuchen Wang. Physicochemical properties and slurry ability of lignite upgraded by a solvent-extraction approach. *Energy Technology*. 2015, 3: 968-975
- (9) Huaili Zhu, Ximing Wang, Jingang Zhang, Kui Yao, Guangsuo Yu, Xingjun Wang. Investigation of K₂CO₃-catalyzed pyrolysis and steam gasification of coal char. *Energy Technology*. 2015.9.1, 3(9): 961-967
- (10) Xingjun Wang, Huaili Zhu, Ximin Wang, Haifeng Liu, Fuchen Wang, Guangsuo Yu. Transformation and reactivity of a potassium catalyst during coal steam catalytic pyrolysis and gasification. *Energy Technology*. 2014, 2: 598-603.
- (11) Ye Sun, Xingjun Wang, Tingting Feng, Guangsuo Yu, Fuchen Wang. Evaluation of coal extraction with supercritical carbon dioxide/1-methyl-2-pyrrolidone mixed solvent. *Energy & Fuels*. 2014, 28: 816–824.
- (12) Jie Zhang, Xingjun Wang, Fuchen Wang, Jie Wang. Investigation of hydrogasification of low-rank coals to produce methane and light aromatics in a fixed-bed reactor. *Fuel Processing Technology*. 2014, 127: 124-132.