



Profile

Sheng Huang, Ph.D, Associate Professor, Master' s Supervisor.

2008.9-2013.6: Ph.D, major in Chemical Technology, East China University of Science and Technology (supervisor: Pro. Jinsheng Gao, Pro. Youqing Wu);

2013.7-2015.6: Post-doctor, East China University of Science and Technology (cooperative supervisor: Pro. Yongdi Liu);

2015.7-2018.7: Lecturer, Department of Energy and Chemical Engineering, East China University of Science and Technology;

2018.8-Now: Associate Professor, Department of Energy and Chemical Engineering, East China University of Science and Technology.

Research Field

The main research field is technology development on clean and efficient thermochemical conversion of coal and biomass, including:

- (1) Basic theory study on pyrolysis of low rank coals for upgrading / new technology development of coal blending for coking.
- (2) New coal liquefaction technology development (mild liquefaction and co-processing of coal and heavy oil).
- (3) Technology development on large-scale efficient and clean thermochemical conversion of biomass and solid waste.

Research results and selected published papers

Scientific Research Projects:

- (1) National key research and development program of China. Development of novel catalysts and key reactors for co-hydrogenation of coal and heavy oil, (No.2018YFB0604602), 2018.05-2021.04.
- (2) National standard. Method for measuring tar content in biomass gas (Standardization administration No. 20173637-T-303), 2018.01-2019.12.
- (3) National natural science foundation of China. Study on pyrolysis behavior and mechanism of low molecular weight compounds in low-rank coals (No. 21506060), 2016.01-2018.12.
- (4) Sub-project of shanghai science and technology commission in the field of social development. Study on technological countermeasures of low environmental impact, rapid and safe treatment of sludge in the sewage pipe (No. 17DZ1202604), 2017.09-2019.06.
- (5) Sub-project of Shanxi coal-based key science and technology tapping project. Decomposition of waste liquid during desulfurization of coke oven gas by waste heat resources (No.MJH2014-09-02), 2014.09-2016.09.
- (6) Basic scientific research business of East China University of Science and Technology. Study on catalytic performance and mechanism of iron-based catalysts in mild liquefaction of lignite, 2014.09-2016.07.
- (7) Enterprise commissioned projects. New technology research on mild thermochemical decomposition of low rank coals, 2015.03-2017.09.

Honors and Awards:

- (1) "Second Prize of Shanghai Science and Technology Progress Award" in 2014.
- (2) The large-scale suction gasification technology has passed the technical appraisal co-chaired by Chinese Renewable Energy Society and China Association of Rural Energy Industry in 2014, and reached the international advanced level.
- (3) "First Prize for Scientific and Technological Progress Award" of China Petroleum and Chemical Industry Federation in 2019.

Main published thesis

- (1) Yanling Li, Sheng Huang*, Youqing Wu*, Shiyong Wu, Jinsheng Gao.Co-pyrolysis of lignite and vacuum residue: Product distribution and hydrogen transfer.

Fuel, DOI: 10.1016/j.fuel.2019.116703.

- (2) Weiwei Zhang, Sheng Huang*, Shiyong Wu, Youqing Wu*, Jinsheng Gao. Study on the structure characteristics and gasification activity of residual carbon in biomass ashes obtained from different gasification technologies. Fuel, 2019, 254, 115699.

- (3)Weiwei Zhang, Sheng Huang*, Shiyong Wu, Youqing Wu*, Jinsheng Gao. Ash fusion characteristics and gasification activity during biomasses co-gasification process. Renewable Energy, 2020, 147: 1584-1594.

- (4) Yanling Li, Sheng Huang*, Qian Wang, Huahua Li, Qianqian Zhang, Huijun Wang, Youqing Wu, Shiyong Wu, Jinsheng Gao. Hydrogen transfer route and interaction mechanism during co-pyrolysis of Xilinhot lignite and rice husk. Fuel Processing Technology, 2019, 192: 13-20.

- (5) Yanling Li, Sheng Huang*, Youqing Wu*, Shiyong Wu, Jinsheng Gao. Effects of thermal dissolution in different solvents on structural characteristics and pyrolysis behaviors of lignite. Fuel, 2019, 241: 550-557.

- (6) Yanling Li, Sheng Huang*, Youqing Wu, Shiyong Wu, Jinsheng Gao. The roles of the low molecular weight compounds in the low-temperature pyrolysis of low-rank coal. Journal of the Energy Institute, 2019, 92(2): 203-209.

- (7) Sheng Huang, Xuhui Zhou, Shiyong Wu*, Youqing Wu*, Jinsheng Gao. Effect of carbonization temperature on the product distributions and characteristics for integrated mild liquefaction and carbonization of low-rank coals. Energy & Fuels 2018, 32(4): 4754-4762.

- (8) Sheng Huang, Shiyong Wu*, Youqing Wu*, Jinsheng Gao. Structure characteristics and gasification activity of residual carbon from updraft fixed-bed biomass gasification ash. Energy Conversion and Management 2017, 136: 108-118.

- (9) Sheng Huang, Shiyong Wu, Youqing Wu*, Jinsheng Gao. Effects of sodium carbonate additive on the hydroliquefaction of a sub-bituminous coal with Fe-based catalyst under mild conditions. Energy & Fuels 2017, 31(12): 13392-13399.

- (10) Sheng Huang, Shiyong Wu*, Youqing Wu, Yongdi Liu, Jinsheng Gao. Steam cogasification of petroleum coke and different rank coals for enhanced coke reactivity and hydrogen-rich gas production. Energy & Fuels 2014, 28(6): 3614-3622.

- (11) Sheng Huang, Shiyong Wu, Yamin Ping, Youqing Wu, Jinsheng Gao*. Effect of CS2 extraction on the physical properties and gasification activity of liquid-phase carbonization cokes. Journal of Analytical and Applied Pyrolysis, 2012, 93: 33-40.

Authorized Patents

- (1) A biomass spiral continuous feeding device, No. ZL201720667373.3, 2018.5.11.
- (2) A swirling fluidized bed biomass gasification, No. ZL201720283250.X, 2017.12.8.
- (3) A fluidized bed biomass gasification with dual-inlet, No. ZL201720083880.2, 2017.10.24.
- (4) A temperature measuring device which can be used in a rotating grate fixed bed gasifier, No. ZL201720177607.6, 2017.10.20.
- (5) A method to produce liquid fuel through sludge liquefaction, No. ZL201310659027.7, 2013.12.9.