

CURRICULUM VITAE

Personal Information			
Name	Baojun YI	Gender	Male
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Research Interest
<ul style="list-style-type: none"> ● Functional research of new energy and new materials; ● Thermal conversion mechanism of solid fuels; ● Engaged in the related scientific research of agricultural waste treatment and energy utilization; ● Construction of rural and urban areas distributed intelligent energy systems.

Professional Memberships
<ul style="list-style-type: none"> ● Donghu High-tech 3551 Optical Valley Industry professor ● Science and Technology Commissioner of Hubei Province, 2020-2021 ● Deputy General Manager of Science and Technology of the Medium and Micro Enterprises in Hubei Province, 2021-2023 ● Director of Hubei Agricultural Engineering Society ● Senior member of Chinese Society of Agricultural Engineering ● Member of China Engineering Thermophysical Combustion Society ● Hubei provincial science and technology special correspondent. ● As a reviewer of ECM, BT, JCP, AE, Fuel, Energy and more than a dozen SCI journals and magazines

Other Roles
<p>Research Programs</p> <ul style="list-style-type: none"> ● National key R&D program, research and demonstration of key technologies and mechanical equipment of rapeseed industry in mountainous areas, 2022-2025, principal investigator of the sub-project ● Hubei province key R&D program, research on coupling and regulation mechanism of biochar and microorganism inoculant, 2021-2023, principal investigator of the sub-project ● Hubei province supporting enterprise technology innovation and development project, research on the integration of agricultural and forestry solid waste efficient and clean heating technology and the utilization of ash residue, 2022-2023, principal investigator of the sub-project ● Open project of the national key laboratory of coal combustion, research on the reaction mechanism of highly active biochar for catalytic reforming of biomass tar, 2021-2022, principal investigator ● Fundamental research fund project of central universities, research on adsorption functionalization mechanism of agricultural waste high-efficiency pyrolysis char, 2019-2021, principal investigator ● Hubei province major scientific and technological innovation special project, research and demonstration of key technologies for maintenance-free green planting roof system based on biomass utilization, 2019-2021, principal investigator of the sub-project ● Hubei provincial natural science foundation project, research on the treatment mechanism of waste water by the low-temperature baking char of livestock and poultry manure, 2018-2019, principal investigator

- Company scientific research project, technology development for a certain characteristic aroma 2019-2020, principal investigator
- Agricultural public welfare industry project, research on high-value carbon gas preparation technology from straw pyrolysis, 2018-2019, principal investigator of the sub-project
- Fundamental research project of the central universities, research on the combustion mechanism of pulverized coal blended with biomass, 2015-2019, principal investigator
- Company scientific research project, monitoring of beef cattle manure and characteristics production coefficient and main water pollutant discharge coefficient in central and southern regions, 2018-2019, principal investigator
- National natural science foundation of china, Synergistic regulation mechanism of structure and nutrition of high-quality biochar fertilizer based on straw pyrolysis technology, 2019-2022, participated
- National key R&D program, research on new membrane waste heat recovery device and process for CO₂ capture, 2017-2020, participated
- National natural science foundation of China, synergistic regulation mechanism of structure and nutrition of high-quality biochar fertilizer based on straw pyrolysis technology, 2018-2020, participated

Education & Working Experience

2023.11~2024.11, Visiting professor,(Co-professor Yong Sik Ok) Korea University (KU)
 2019.12~, Associate professor, Huazhong Agricultural University (HZAU)#
 2015.09~2019.11, Lecturer, Huazhong Agricultural University (HZAU)
 2009.09~2015.06, D.E, Thermal engineering, Huazhong university of science and technology (HUST)

Publications

- [1] Zhengshuai Sun, Dingding Yao, Huang Guo, Haodong Zhu, Wenbin Hua, Qiaoxia Yuan, Liqi Zhang, Qizhou Fan, Baojun Yi*, Catalytic mechanism of N-containing biochar on volatile-biocharinteraction for the same origin pyrolysis, Journal of Environmental Management, 2023, 336,117710 (SCI&EI, IF=8.910)
- [2] Baojun Yi*, Meijing Chen, Yong Gao, Chengyang Cao, Qi Wei, Zihang Zhang, Lichun Li, Investigation on the co-combustion characteristics of multiple biomass and coal under O₂/CO₂ condition and the interaction between different biomass[J]. Journal of Environmental Management, 2023; 325, 116498 (SCI&EI, IF=8.910)
- [3] Zhengshuai Sun, Dingding Yao, Chengyang Cao**, Zihang Zhang, Liqi Zhang, Haodong Zhu, Qiaoxia Yuan, Baojun Yi*, Preparation and formation mechanism of biomass-based graphite carbon catalyzed by iron nitrate under a low-temperature condition[J]. Journal of Environmental Management, 2022; 318, 115555 (SCI&EI, IF=8.910)
- [4] Zihang Zhang, Baojun Yi*, Zhengshuai Sun, Qi Zhang, He Feng, Hongyun Hu*, Xiangguo Huang, Chunqing Zhao. Reaction process and characteristics for coal char gasification under changed CO₂/H₂O atmosphere in various reaction stages[J]. Energy 2021;229, 120677
- [5] Haodong Zhu, Baojun Yi *, Hongyun Hu*, Qizhou Fan, Hao Wang, Hong Yao. The effects of char and potassium on the fast pyrolysis behaviors of biomass in an infrared-heating condition[J]. Energy 2021;214, 119065
- [6] Yao Zhu, Baojun Yi *, Zhixi Zong, Xueqi Yang, Meijing Chen, Qiaoxia Yuan. Adsorption characteristic of organic matter by low-temperature dry cattle manure-derived anaerobic digestion[J]. Desalination and Water Treatment 2021, 225,76-85.
- [7] Chenao Lei, Baojun Yi *, Weiqi Deng, Meijing Chen, Yuanyuan Wang. Effect of metal cationic on the adsorption of selenium from sewage by biochar loaded with zero-valent iron, Desalination and Water Treatment. 2022,245,202-216.
- [8] Hua Tang, Hongyun Hu, Aijun Li, Baojun Yi, Xian Li, Dingding Yao, Hong Yao, Haoran Yuan. Removal of impurities from waste tire pyrolysis char using the molten salt thermal treatment,

Fuel.2021,301,121019

- [9] Chengyang Cao, Yang Ren, Hao Wang, Hongyun Hu*, Baojun Yi, Xian Li, Linling Wang, Hong Yao. Insights into the role of CaO addition on the products distribution and sulfur transformation during simulated solar-powered pyrolysis of waste tires, *Fuel*, 2021, 122795.
- [10] Yao Zhu #, Baojun Yi*, Hongyun Hu *, Zhixi Zong, Meijing Chen, Qiaoxia Yuan. The relationship of structure and organic matter adsorption characteristics by magnetic cattle manure biochar prepared at different pyrolysis temperatures. *Journal of Environmental Chemical Engineering* 2020; 8(5): 104112
- [11] Wei Wu#, Qizhou Fan*, Baojun Yi *, Bichen Liu and Rujiao Jiang. Catalytic characteristics of a Ni-MgO/HZSM-5 catalyst for steam reforming of toluene. *RSC Advances* 2020; 10, 20872–20881
- [12] Meijing Chen#, Baojun Yi *, Zhigang Li, Qiaxia Yuan. Combustion Characteristics of Biomass and Bituminous Coal Co-firing in Non-isothermal and Isothermal Conditions. *Bioresources* 2020; 15(4), 9490-9506.
- [13] Yuhan Yang, Hongyun Hu*, Fu Yang, Hua Tang, Huan Liu, Baojun Yi, Xian Li, Hong Yao. Thermochemical conversion of lignocellulosic bio-waste via fast pyrolysis in molten salts. *Fuel*, 2020, 278:118228.
- [14] Yao Zhu, Baojun Yi*, Qiaoxia Yuan, Hongliang Cao, and Shuiping Yan, Combustion Characteristics of Cattle Manure and Pulverized Coal Co-firing under Oxy-Fuel Atmosphere in Non-Isothermal and Isothermal Conditions. *Bioresources* 2019; 13(3): 6465-79.
- [15] Baojun Yi *, Qiaoxia Yuan, Hongliang Cao, Wenjuan Niu, Ming Wang, Yao Zhu, Shuiping Yan. Effect of alkali and alkaline earth metal species on the combustion characteristics of cattle manures. *RSC Advances* 2018; 8: 11705 - 13.
- [16] Baojun Yi *, Qiaoxia Yuan*, Hongliang Cao, Ming Wang, Wenjuan Niu and Shuiping Yan. Combustion Characteristics of Densified Cattle Manure Briquette in an Isothermal Condition. *Bioresources* 2018; 13: 3571-84.
- [17] Yao Zhu, Baojun Yi*, Qiaoxia Yuan, Yunnian Wu, Ming Wang, and Shuiping Yan. Removal of methylene blue from aqueous solution by cattle manure-derived low temperature biochar[J]. *RSC Advances* 2018; 8: 19917-29.
- [18] Baojun, Yi, Liqi Zhang*, Qiaoxia Yuan. Study of the flue gas characteristics and gasification reaction of pulverized coal combustion in O₂/CO₂/H₂O atmosphere[J]. *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects* 2018; 1-8. (SCI&EI, IF=0.555)
- [19] Baojun Yi, Liqi Zhang*, Fang Huang, Zuojun Xia, Zhihui Mao, Jiwei Ding, Chuguang Zheng , Investigating the combustion characteristic temperature of 28 kinds of Chinese coal in oxy-fuel conditions. *Energy Conversion and Management* 103, 0 (2015): 439-447 (
- [20] Baojun, Yi, Liqi Zhang*, Qiaoxia Yuan, Shuiping Yan, Chuguang Zheng , The evolution of coal char structure under the oxy-fuel combustion containing high H₂O. *Fuel Processing Technology*. 2016, 152: 294-302;
- [21] Baojun, Yi, Liqi Zhang*, Fang Huang, Zhihui Mao and Chuguang Zheng. Effect of H₂O on the Combustion Characteristics of Pulverized Coal in O₂/CO₂ Atmosphere. *Applied Energy* 132, 0 (2014): 349-357.
- [22] Baojun, Yi, Liqi Zhang*, Zhihui Mao, Fang Huang and Chuguang Zheng. Effect of the Particle Size on Combustion Characteristics of Pulverized Coal in an O₂/CO₂ Atmosphere. *Fuel Processing Technology* 128, 0 (2014): 17-27.
- [23] Fang Huang, Liqi Zhang*, Baojun Yi, Zuojun Xia and Chuguang Zheng. Effect of H₂O on Pyrite Transformation Behavior During Oxy-Fuel Combustion. *Fuel Processing Technology* 131, 0 (2015): 458–465.
- [24] Fang Huang, Li-Qi Zhang*, Bao-Jun Yi, Zuo-Jun Xia and Chu-Guang Zheng. Transformation Pathway

of Excluded Mineral Pyrite Decomposition in CO₂ Atmosphere. Fuel Processing Technology, (2015).

- [25] Baojun Yi, Liqi Zhang*, Zihui Mao, Fang Huang, Chuguang Zheng, Pore structures change of different particle size of pulverized coal combustion in an O₂/CO₂ atmosphere, in:30th Annual International Pittsburgh Coal Conference 2013, PCC 2013, September 15, 2013 - September 18, 2013, International Pittsburgh Coal Conference, Beijing, China, 2013, pp. 3186-3209.

Books

Liqi Zhang, Baojun Yi. Chapter 4 - Pulverized Coal Combustion Characteristics in Oxy-fuel Atmospheres - Zheng, Chuguang [M]/LIU Z. Oxy-Fuel Combustion. Academic Press. 2018: 63-85.

Patents

- [1] YI Baojun, ZHANG Zihang, Yuan Qiaoxia, Zhang Qi, Fan Qizhou, Sun Zhengshuai. The invention relates to a system and method for directional control of biochar by cascade temperature air oxidation. Authorized invention patent number: ZL 202010329470.8;
- [2] YI Baojun, ZHANG Qi, Zhang Zihang, Fan Qizhou, Yuan Qiaoxia, Sun Zhengshuai. Continuous biomass charring apparatus and method for differential classification of gas-solid fractional pyrolysis. Authorized invention patent number: ZL 202010274341.3;
- [3] YI Baojun, ZHANG Zihang, ZHANG Qi, Fan Qizhou, LIU Bichen, Sun Zhengshuai, Deng Weiqi, QIU Wenyi, Wang Chengxin. Self-heating carbonizing furnace and method for gas-solid classification of gravity flow biomass, authorized invention patent No. : ZL 202010232540.8;
- [4] YI Baojun, ZHANG Zihang, YAO Dingding, Chen Mei, Guo Huang, Sun Zhengshuai, ZENG Jiawen, YUAN Qiaoxia. The invention relates to an intelligent drum dryer for multi-function drying and a method thereof. Authorized invention patent number: 202111142152.1
- [5] YI Baojun, FANG Ziwei, Zhang Zihang, Liu Bichen, Zhang Qi, YUAN Qiaoxia. The invention relates to a pyrolytic carbonizing equipment and method for treating agricultural waste and domestic waste. Authorized invention patent number: ZL 202010728418.X;
- [6] YI Baojun, Lei Chenao, Wu Yunlian, Liu Xin, Zhu Yao, Yuan Qiaoxia. A biochar supported nano zero-valent iron material and its application. Authorized invention patent number: ZL 201910993049.4;
- [7] YI Baojun, ZHANG Qi, Zhang Zihang, Hu Hongyun, WU Jiahao, Chen Siyi, Wang Chengxin, DENG Weiqi, YUAN Qiaoxia. Device and method for preparing vermicast fertilizer from slaughtering sludge. Authorized invention patent number: ZL202010789768.7;
- [8] YI Baojun, YUAN Qiaoxia, Cao Hongliang, Niu Wenjuan, Yan Horizontal Level, Wang Ming, Mei Daofeng, LIU Zhigang, ZHANG Jianguo. A low energy consumption circulating fluidized bed carbonizing device and method for agricultural waste. Authorized invention patent number: ZL 201710489746.7;
- [9] YI Baojun, ZHENG Zhicheng, YUAN Qiaoxia, Lin Guiying, Song Na, Fan Qizhou, Luo Zhongbi, JIANG Rujiao. High ash biomass pellet fuel combustion furnace and method thereof. Authorized invention patent number: ZL 2019102181748;
- [10] YI Baojun, Sun Zhengshuai, Wei Qi, Hua Wenbin, Wang Kai, YUAN Qiaoxia. The invention relates to a graphene preparation method and a system. Invention patent acceptance application number: 2023101280884
- [11] Yi Baojun; Zeng Jiawen; Chinese Wenbin; Zhang Zihang; CAI J Y. A method and device for producing biochar by fractional pyrolysis of water vapor cycle section. Invention patent application number: 2023100611837
- [12] YI Baojun, Hua Wenbin, Wang Kai, Guan Zihao, Yang Jiayi, Sun Zhengshuai, Wei Qi. The invention relates to an integrated biochar restoration controlled release fertilizer and a preparation method thereof.

Invention patent acceptance application number: 202310336776X

- [13] YI Baojun, Hua Wenbin, Guan Zihao, Wang Kai, Yang Jiayi, Sun Zhengshuai, Wei Qi. The invention relates to a UV protection biological controlled release pesticide based on signal transmission and a preparation method thereof. Invention patent acceptance application number: 2023103367863
- [14] YI Baojun, ZENG Jiawen, YAO Dingding, WANG Xinyu, LI Zimu, GUO Limin, ZHANG Zihang, DING Zijie, Sun Zhengshuai. Biomass semi-gasification enhanced self-heating charring device and its control method and application. Invention patent acceptance application number: 2021110486887
- [15] YI Baojun, Zhu Yao, Yuan Qiaoxia, Sun Zhengshuai, Zong Zhixi, Yang Xueqi. A magnetic composite material based on cow dung biochar and its application. Invention patent acceptance application number: 201910814213.0;
- [16] Yuan Qiaoxia, Luo Shuai, Cao Hongliang, Yi Baojun, Niu Wenjuan, Li Weifeng, Xu Chao, a device and method for measuring resting Angle of bulk materials. Invention patent authorization number: 201711335830.X;
- [17] CAO Hongliang, YUAN Qiaoxia, YI Baojun, Liu Zhigang, Liu Hu, Xin Ya, Yin Chenglong. The utility model relates to an intensive biomass pyrolysis gasification gas purification device. Utility model license number: 201620677193.9;
- [18] FAN Qizhou, WU Wei, YI Baojun, LIU Bichen, Zhu Haodong, Yang Wentao, JIANG Rujiao, MA Yidan. The invention relates to a preparation method of a steam reforming catalyst for biomass pyrolysis tar. Invention patent acceptance application number: 201910901485.4;
- [19] FAN Qizhou, WANG Lie, YI Baojun, Deng Zaijing, LIU Bichen, Wu Wei. The utility model relates to a movable two-box type fixed charring furnace indirectly heated by flue gas. Utility model license number: 201821306205.2;
- [20] FAN Qizhou, WANG Menglong, DENG Zaijing, YI Baojun, Ai Ping, WU Wei, LIU Bichen. The utility model relates to a multi-barrel biomass carbonizing equipment. Utility model license number: 201821413127.6;
- [21] FAN Qizhou, Wang Lie, ZHANG Qun, Ai Ping, YI Baojun, Deng Zaijing, LIU Bichen, WU Wei. The invention relates to a two-step heating upright cylindrical fixed bed charring chamber. Utility model license number: 201821310769.3;
- [22] FAN Qizhou, Huang Yu, Fan Xianhong, YI Baojun, Deng Zaijing, Wang Lie, LIU Bichen, WU Wei. Vertical moving bed biomass charring furnace. Utility model license number: 201821089092.5;
- [23] Liu Zhi-G, Yuan Qiaoxia, Lin Jia-Cong, Cao Hong-Liang, Yi Baojun, Xu Qin-chao, equipment and method for separating earthworm, worm cocoon and worm droppings. Authorized invention patent number: ZL 201610542065.8;
- [24] Liu Zhigang, Yuan Qiaoxia, Cao Hongliang, Yi Baojun, Xu Qin-chao. Worm bed animal manure adding equipment. Authorized invention patent number: ZL 201720751187.8
- [25] ZHANG Liqi, YI Baojun, Luo Zhelin, Chen Ke, ZHENG Chuguang. The utility model relates to an oxygen enriched combustion flue gas purification device. Authorized invention patent number: ZL.201310215434.9;
- [26] Zhang Liqi, Yi Baojun, Zhu Haiyue, Hu Peng, Zheng Chuguang. The invention relates to a water-steam cycle regulated oxygen-enriched combustion method for a pulverized coal boiler. Authorized invention patent number: ZL.201210549692.6;
- [27] The invention relates to an oxygen-enriched flameless combustion method of pulverized coal and a system thereof. Authorized invention patent number: ZL.201310624080.3;
- [28] A method for obtaining thermal performance of an oxygen-rich combustion boiler. Authorized invention patent number: ZL.201410215661.6;