

Curriculum Vitae



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Prof. Huang is the vice dean of college of energy engineering of Zhejiang University and he engages in research on the efficient and clean thermal treatment of solid waste including MSW, sludge, waste plastics, oily sludge. He also interests in combustion optimization technology development. He is the coordinator of the Global WtERT Council and member of Chinese incineration Committee of China association of Urban environmental sanitation and managing editors of journal Waste Disposal & Sustainable Energy. He is also the PI for more than 30 research projects such as national key research and development program project, 973 program project, 863 program project, high technology development program project, NSFC and many projects supported by industrial companies.

He has published more than 80 international peer-reviewed journals papers. He has been awarded national S&T progress team Awards, Second Prize of National Science and Technology Progress and First Prize of Zhejiang Science and Technology Progress.

Education

2000/09-2005/06 Zhejiang University Department of Thermal Physics Ph. D.
1996/09-2000/06 Zhejiang University College of Energy Engineering Bachelor

Experience

2019.6-, College of Energy Engineering, Zhejiang University, Vice Dean
2017.9-2019.6, Institute of Thermal Power Engineering, vice Director
2014/12-, College of Energy Engineering, Professor
2010/12-2011/12 Combustion Laboratory, University of Illinois at Urbana-Champaign, Visiting scholar
2008/07-2014/12 College of Energy Engineering, Associate Professor
2005/07-2008/06 School of Energy and Mechanical Engineering, Postdoctoral Faculty, Lecturer

Research interests

- Incineration of combustible solid waste including MSW, sludge
- Pyrolysis of oily sludge, waste plastics, waste tires and biomass
- Thermal treatment of industrial solid waste
- High temperature plasma technology for hazardous waste including fly ash
- Hydrogen and oil production from solid waste
- Catalytic pyrolysis and plasma-assisted treatment technology
- Combustion control optimization for furnace

【Government supported Research project】

- 1) 2021.01 - 2024.12 Natural Science Foundation of China (52076190), Study on the mechanism of aromatics production from mixed non-recyclable plastic by non-equilibrium plasma enhanced catalytic pyrolysis (¥ 686,000)
- 2) 2020.01 - 2022.12 Zhejiang Key R&D Program (2020C03084) Key techniques and demonstration for gradient cracking of waste tires and ultra-low emission (¥ 22,000,000)
- 3) 2019.01 - 2021.12 Shandong Key R&D Program (2019JZZY020806) Key techniques and industrialization on energy-based recycle of organic solid waste (¥ 744,000)
- 4) 2018.12 - 2022.12 National Key R&D Program (2018YFC1901300) Key technologies and equipment for efficient clean and stable incineration of organic solid waste (project leader) (¥ 21,010,000)

- 5) 2018.01 - 2020.12 Yunnan Key R&D Program (2018IB026) Demonstration project of phosphate ore modification by off-gas (¥ 840,000)
- 6) 2017.08 - 2020.07 National Key Research and Development Plan - International Cooperation Project, Research and Demonstration on Efficient and Clean Energy Utilization of Municipal Solid Waste in Typical Southeast Asian Countries (2016YFE0202000)
- 7) 2017.1 - 2018.12 University development Fund of Ministry of Education of China, Research on catalytic cracking of tar by biochar from sludge (¥ 510,000)
- 8) 2015.8 - 2018.12 Ministry of Ecology and Environment of China, Technologies and demonstration of solid waste incineration in rural area (¥ 1,230,000)
- 9) 2016.01 - 2019.12 Natural Science Foundation of China, Fundamental study of target oriented catalytic pyrolysis of oily sludge treated by microemulsion system (51576172) (¥ 750,600)
- 10) 2011.01 - 2015.12 National Science and Technology Support Program, Research and equipment development on phase separation technology of sludge (2012BAB09B03) (¥ 3,880,000)
- 11) 2010.01 - 2015.12 National Basic Research Program of China 973 Program, Mechanism research on efficient and clean use of combustible solid waste (2011CB201506-3) (¥ 1,000,000)
- 12) 2010.01 - 2015.12 National science and technology major project of water pollution control and treatment, Circulation fluidized bed incinerator development (20130101110097) (¥ 1,000,000)
- 13) 2012.01~2015.12 Science and Technology Pillar Program of Zhejiang Province, Research on the generation and agglomeration process of carbon black particles based on infrared radiation analysis (¥ 90,000)

【International company supported Project】

- 1) 2017.7-2018.9 Pilot MSW Gasification Test, COVANTA ENERGY, LLC, United States of America
- 2) 2015.01~2016.12 Experimental study of efficient upgrading technology for syngas derived from municipal solid waste, COVANTA ENERGY, LLC, United States of America

【Industrial company supported Project】

- 1) 2021.9-2022.12 Engineering and process package development on thermal treatment of waste tire, China United Engineering Corporation Limited
- 2) Research and demonstration on gasification-melting treatment of hazardous waste by plasma, CITIC Envirotech (Guangzhou) Ltd.
- 3) 2021.8-2021.12 Carbon emission reduction and energy efficiency study analysis on coal/industrial solid waste cogeneration power plant in Yongjia, Zhejiang Hetai Heat & Power Co., Ltd.
- 4) 2021.6-2022.12 Research on waste tire/coal coupled pyrolysis as substitution for poly-generation, ZJMI Environmental Energy Co., Ltd., Tongxiang Taiais Environmental Energy Co., Ltd.
- 5) 2021.4-2022.10 Energy efficiency assessment of large-scale sludge treatment and heat/power/gas combined system, optimism study on efficient combustion of sludge, Jiaying New Jies Heat & Power Co., Ltd.
- 6) 2021.3-2021.4 Simulation of hazardous waste incineration system (rotary kilns, secondary combustion chamber, deacidification tower), Tianjin Chenchuang

- Environment Engineering Science & Technology Co., Ltd.
- 7) 2021.2-2022.12 Recycle and application of tire rubber granules from waste incinerator, Zhejiang Energy Xingyuan Energy Conservation Technologies Ltd.
 - 8) 2020.12-2022.6 Key techniques and demonstration for gradient cracking of waste tires and ultra-low emission, Hangzhou ZC Rubber Technology Ltd.
 - 9) 2020.9-2021.9 Research project on multi-source data fusion and intelligent control optimization strategy for large industrial combustion systems, Alibaba-Zhejiang University Joint Research Institute of Frontier Technologies
 - 10) 2020.8-2021.12 Research on coal-adaptive clean and intelligent combustion stabilization technology and capacity enhancement, Zhejiang Juhua Heat & Power Co., Ltd.
 - 11) 2020.7-2022.7 Research on clean and efficient energy utilization technology of waste by pyrolysis and gasification, Shanghai SUS Environment Co., Ltd.
 - 12) 2020.3-2021.3 Intelligent combustion control technology for biomass fluidized bed boiler based on three-dimensional temperature field measurement, Jiaying New Jies Heat & Power Co., Ltd.
 - 13) 2019.7-2021.7 Key technologies of co-incineration of industrial waste, Hangzhou New Century Energy Environment Protection Engineering Co., Ltd.
 - 14) 2018.1-2019.12 Accurate diagnosis of slagging and slagging control system in large-scale pulverized coal boiler, Zhejiang Energy Jiaying Power Generation Ltd.
 - 15) 2016.7-2018.11 Research on harmless recycle and utilization of oily sludge and boiler waste, Xinjiang Yucheng Heating Co., Ltd.
 - 16) 2017.3-2018.3 Detoxification and pretreatment of municipal domestic waste incineration fly ash, Everbright Environmental Energy Co., Ltd.
 - 17) 2014.1-2017.12 Domestic waste incineration project in small watershed, The people's government of Daqiao, Xiushui County
 - 18) 2016.1-2017.12 Small-scale application of clean thermal treatment technologies for domestic waste, Zhejiang Zeda Water Co., Ltd.
 - 19) 2016.1-2016.12 Environmental emission test of co-combustion of leather and sludge in fluidized-bed, Wenzhou Hongze Heat & Power Co., Ltd.
 - 20) 2015.1-2016.12 Energy saving optimization of ultra-low emission system, Zhejiang Energy Jiahua Power Generation Ltd.
 - 21) 2015.1-2016.12 Research on gasification of domestic waste, Zhejiang Energy Xingyuan Investment Ltd.

【Awards】

- 1) 2017, Second Prize of the National Science and Technology Progress Award, pyrolysis and incineration system for hazardous waste treatment, 8/13
- 2) 2016, Team Prize of the National Science and Technology Progress Award, Clean Energy Utilization innovation team, 12/15
- 3) 2015, First Prize of the Science and Technology Progress Award of Zhejiang Province, Combustion diagnosis and optimizing technology, 3/10
- 4) 2014, Second Prize of the National Science and Technology Progress Award, sewage sludge drying and incineration technology using fluidized bed as reactor, 7/10
- 5) 2012, First Prize of the Science and Technology Award of Zhejiang Province, Integrated disposal technology for the rotary multi-stage pyrolysis and incineration of hazardous waste, 9/13
- 6) 2012, First Prize of the Science and Technology Award of China Construction, Integration and application of the thermal drying and co-combustion in coal-fired boilers technology of sludge, 6/15

【Publications】

- 1) Franz P. Neubacher¹ and Qunxing Huang, WTE: Fluidized Bed Technology, Encyclopedia of Sustainability Science and Technology, Encyclopedia of Sustainability Science and Technology, pp 1-18, Springer, Sep. 21, 2017
- 2) Qunxing Huang, Xu Cai, Moussa-Mallave Alhadj-Mallah, Jun Wang, Feiyan Mao, Xu Han, Innovative Technologies: Plasma Arch Gasification, CHAPTER 11, Sustainable Solid Waste Management, edited by Jonathan W.C. Wong, et al. 21.9, American Society of Civil Engineers, 2016.
- 3) 污泥无害化能源化热处置技术, 严建华, 王飞, 池涌, 蒋旭光, 李晓东, 黄群星, 中国电力出版社, 2016

【International journal Papers】

2021

- 1) Pan, Y., Huang, P., Xue, Z., Wang, X., Zhou, Y., & Huang, Q. The effect of the secondary reactions on volatile composition during the pyrolysis treatment of scrap tires. *Environmental Technology (United Kingdom)*, 0(2021), 1–12.
- 2) Pan, Y., Sima, J., Wang, X., Zhou, Y., & Huang, Q. BTEX recovery from waste rubbers by catalytic pyrolysis over Zn loaded tire derived char. *Waste Management*, 131(2021), 214–225.
- 3) Wang, J., Sun, C., Huang, Q. X., Chi, Y., & Yan, J. H. Adsorption and thermal degradation of microplastics from aqueous solutions by Mg/Zn modified magnetic biochars. *Journal of Hazardous Materials*, 419(2021), 126486.
- 4) Song, J., Sima, J., Pan, Y., Lou, F., Du, X., Zhu, C., & Huang, Q. Dielectric Barrier Discharge Plasma Synergistic Catalytic Pyrolysis of Waste Polyethylene into Aromatics-Enriched Oil. *ACS Sustainable Chemistry and Engineering*, 9(2021), 11448–11457.
- 5) Sun, C., Chen, T., Huang, Q., Duan, X., Zhan, M., Ji, L., Li, X., & Yan, J. Selective production of singlet oxygen from zinc-etching hierarchically porous biochar for sulfamethoxazole degradation. *Environmental Pollution*, 290(2021), 117991.
- 6) Xie, H., Lin, X., Wang, S., Li, L., Feng, H., Zhang, P., & Huang, Q. Real-time diagnosis of circulation stability for CFB combustion optimization using a novel image trajectory method. *Fuel*, 305(2021), 121554.
- 7) Song, Jiaying, Sun, Kai, Huang, Qunxing. The effect of thermal aging on the composition of pyrolysis oil fuel derived from typical waste plastics. *FUEL PROCESSING TECHNOLOGY* 218(2021)
- 8) Meng, Xiangdong, Wang, Qian, Wan, Biao, Xu, Jie, Huang, Qunxing, Yan, Jianhua, Tang, Yuanzhi. Transformation of Phosphorus during Low-Temperature Co-Combustion of Sewage Sludge with Biowastes. *ACS Sustainable Chemistry & Engineering* 9(2021), 3661-3669
- 9) Sun, C., Chen, T., Huang, Q., Duan, X., Zhan, M., Ji, L., Li, X., Wang, S., Yan, J., Biochar cathode: Reinforcing electro-Fenton pathway against four-electron reduction by controlled carbonization and surface chemistry. *Sci. Total Environ.* 754(2021), 142136.
- 10) Sun, K., Wang, W., Themelis, N.J., Thanos Bourtsalas, A.C., Huang, Q., Catalytic co-pyrolysis of polycarbonate and polyethylene/polypropylene mixtures: Promotion of oil deoxygenation and aromatic hydrocarbon formation. *Fuel* 285(2021), 119143.
- 11) Yang, Y., Lin, B., Sun, C., Tang, M., Lu, S., Huang, Q., Yan, J. Facile synthesis of tailored mesopore-enriched hierarchical porous carbon from food waste for rapid removal of aromatic VOCs. *Sci. Total Environ.* 773(2021), 145453
- 12) He, J., Hu, Q., Jiang, M., Huang, Q.. Nanostructure and reactivity of soot particles from open burning of household solid waste. *Chemosphere* 269(2021), 129395.

2020

- 13) Pan, Y., Yang, D., Sun, K., Wang, X., Zhou, Y., Huang, Q. Pyrolytic transformation behavior of hydrocarbons and heteroatom compounds of scrap tire volatiles. *Fuel* 276(2020), 118095.
- 14) Sun, K., Themelis, N.J., Bourtsalass, A.C. (Thanos.), Huang, Q. Selective production of aromatics from waste plastic pyrolysis by using sewage sludge derived char catalyst. *J. Clean. Prod.* 268(2020), 122038.
- 15) Yang, Y., Sun, C., Lin, B., Huang, Q. Surface modified and activated waste bone char for rapid and efficient VOCs adsorption. *Chemosphere* 256(2020), 127054.
- 16) Ai-Yue Wang, Kai Sun, Liping Wu, Ping Wu, Wenchao Zeng, Zhongmin Tian, Qun-Xing Huang*, Co-carbonization of biomass and oily sludge to prepare sulfamethoxazole super-adsorbent materials, *Science of the Total Environment* 698 (2020) 134238
- 17) Chen Sun, Tong Chen, Qunxing Huang, Mingxiu Zhan, Xiaodong Li, Jianhua Yan, Activation of persulfate by CO₂-activated biochar for improved phenolic pollutant degradation: Performance and mechanism, *Chemical Engineering Journal* 380 (2020) 122519

2019

- 18) Peng Lu, Qunxing Huang*, Yong Chi, Fei Wang, Jianhua Yan, Catalytic cracking of tar derived from the pyrolysis of municipal solid waste fractions over biochar, *Proceedings of the Combustion Institute* 37 (2019) 2673–2680
- 19) Bingcheng Lin, Qunxing Huang*, Mujahid Ali, Fei Wang, Yong Chi, Jianhua Yan, Continuous catalytic pyrolysis of oily sludge using U-shape reactor for producing saturates-enriched light oil, *Proceedings of the Combustion Institute* 37 (2019) 3101–3108
- 20) Xiangdong Meng, Xiaoji Liu, Qunxing Huang*, Huaping Gao, Kangrou Tay, Jianhua Yan, Recovery of phosphate as struvite from low-temperature combustion sewage sludge ash (LTCA) by cation exchange, *Waste Management* 90 (2019) 84–93
- 21) Wanli Wang,† Kai Sun,† Mujahid Ali,† Xiaoji Liu,‡ and Qunxing Huang*, Copyrolysis Behavior of Xylan and Polyvinyl Chloride Plastic, *Energy Fuels* 2019, 33, 8727–8734
- 22) Bingcheng Lin, Qunxing Huang*, Yuxuan Yang, Yong Chi, Preparation of Fe-char catalyst from tank cleaning oily sludge for the catalytic cracking of oily sludge, *Journal of Analytical and Applied Pyrolysis* 139 (2019) 308–318
- 23) Binhang Hu, Qunxing Huang*, Yong Chi, Jianhua Yan, Polychlorinated dibenzo-p-dioxins and dibenzofurans in a three-stage municipal solid waste gasifier, *Journal of Cleaner Production* 218 (2019) 920-929
- 24) Mujahid Ali, Qunxing Huang*, Yafei Wang, Bingcheng Lin, Kai Sun, Yong Chi, Fei Wang, The Effect of Hydrolysis on Properties of Soot and Tar During the Pyrolysis of Sewage Sludge, *Waste and Biomass Valorization*,

<https://doi.org/10.1007/s12649-019-00685-y>

- 25) Ya-fei Wang, Qun-xing Huang, Fei Wang, Yong Chi, Jian-hua Yan. Brownian dynamics simulation of soot primary particle aggregation in laminar ethylene diffusion flames. *Physica A* 514(2019) 936-947.
- 26) Ya-fei Wang, Qun-xing Huang, Fei Wang, Yong Chi, Jian-hua Yan. A feasible and accurate method for calculating the radiative properties of soot particle ensembles in flames. *Journal of quantitative spectroscopy & radiative transfer* 224(2019) 222-232.
- 27) Peng Lu, Qunxing Huang, Yong Chi, Fei Wang, Jianhua Yan. Catalytic cracking of tar derived from the pyrolysis of municipal solid waste fractions over biochar. *Proceedings of the Combustion Institute*, 2019, 37(3), 2673-2680.

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- 28) Ya-fei Wang, Qun-xing Huang, Fei Wang, Yong Chi, Jian-hua Yan. Effects of morphology and wavelength on the measurement accuracy of soot volume fraction by laser extinction. *Measurement science and technology*, 29(2018) 015202.
- 29) Peng Lu, Qunxing Huang, A. C. Bourtsalas, Yong Chi, Jianhua Yan. Synergistic effects on char and oil produced by the co-pyrolysis of pine wood, polyethylene and polyvinyl chloride. *Fuel*, 2018, 230, 359-367.
- 30) Peng Lu, Qunxing Huang, A.C. Bourtsalas, Nickolas J. Themelis, Yong Chi, Jianhua Yan. Review on fate of chlorine during thermal processing of solid wastes. *Journal of Environmental Sciences*, 2018
- 31) Bingcheng Lin, Qunxing Huang, Mujahid Ali, et al. Continuous catalytic pyrolysis of oily sludge using U-shape reactor for producing saturates-enriched light oil. *Proceedings of the Combustion Institute [J]*. 2018.
<https://doi.org/10.1016/j.proci.2018.05.143>.
- 32) Bingcheng Lin, Qunxing Huang, Yong Chi. Co-pyrolysis of oily sludge and rice husk for improving pyrolysis oil quality. *Fuel Processing Technology [J]*. 2018, 177: 275-282.
- 33) Meng, X., Huang, Q., Gao, H., Tay, K., Yan, J., 2018. Improved utilization of phosphorous from sewage sludge (as Fertilizer) after treatment by Low-Temperature combustion. *Waste management* 80, 349-358.
- 34) Kai Sun, Qunxing Huang, Ali Mujahid, Yong Chi, Jianhua Yan. Producing Aromatic-Enriched Oil from Mixed Plastics Using Activated Biochar as Catalyst. *Energy & Fuels [J]*. 2018, 32(4), 5471-5479.
- 35) Kai Sun, Qunxing Huang, Xiangdong Meng, Yong Chi, Jianhua Yan. Catalytic Pyrolysis of Waste Polyethylene into Aromatics by H₃PO₄-Activated Carbon. *Energy & Fuels [J]*. 2018, 32(9), 9772-9781.
- 36) Kai Sun, Qunxing Huang, Yong Chi, Jianhua Yan. Effect of ZnCl₂-activated Biochar on Catalytic Pyrolysis of Mixed Waste Plastics for Producing Aromatic-enriched Oil. *Waste Management [J]*. 2018, 81, 128-137.
- 37) Guoshun Zhou, Qunxing Huang, Ben Yu, Hui Tong, Yong Chi, Jianhua Yan, Effect of

industrial microwave irradiation on the physicochemical properties and pyrolysis characteristics of lignite, *Chinese Journal of Chemical Engineering*, doi:10.1016/j.cjche.2017.11.002

- 38) Jun Wang, Chen Sun, Bing-Cheng Lin, Qun-Xing Huang*, Zeng-Yi Ma, Yong Chi, Jian-Hua Yan, Micro- and mesoporous-enriched carbon materials prepared from a mixture of petroleum-derived oily sludge and biomass, *Fuel Processing Technology* 171 (2018) 140–147
- 39) Yijing Tang, Qunxing Huang*, Kai Sun, Yong Chi, Jianhua Yan Co-pyrolysis characteristics and kinetic analysis of organic food waste and plastic, *Bioresource Technology* 249 (2018) 16-23
- 40) Jun Wang, Xu Han, Qunxing Huang, Zengyi Ma, Yong Chi, Jianhua Yan. Characterization and migration of oil and solids in oily sludge during centrifugation. *Environ. Technol.*, 2017;.1-9. *ENVIRONMENTAL TECHNOLOGY*, 2018, VOL. 39, NO. 10, 1350–1358

2017

- 41) Lu Peng, Huang Qunxing, Chi Yong, Yan Jianhua, Coking and Regeneration of Nickel Catalyst for the Cracking of Toluene as a Tar Model Compound, *ENERGY & FUELS*, 2017,31:8283-8290
- 42) Peng Lu, Qunxing Huang, Athanasios C. Bourtsalas, Yong Chi, Jianhua Yan. Effect of operating conditions on the coke formation and nickel catalyst performance during cracking of tar. *Waste and Biomass Valorization*, 2017.
- 43) Peng Lu, Qunxing Huang, Yong Chi, Jianhua Yan. Preparation of high catalytic activity biochar from biomass waste for tar conversion. *Journal of Analytical and Applied Pyrolysis*, 2017, 127C: 47-56.
- 44) Peng Lu, Qunxing Huang, A.C (Thanos) Bourtsalas, Yong Chi, Jianhua Yan. Experimental research of basic properties and reactivity of waste derived chars. *Applied Thermal Engineering*, 2017, 119(5): 639-649.
- 45) Hu Binhang, Huang Qunxing, Bourtsalas, A. C. Thanos, Ali Mujahid, Chi Yong, Yan Jianhua, Effect of Chlorine on the Structure and Reactivity of Char Derived from Solid Waste, *ENERGY & FUELS*, 2017,31:7606-7616
- 46) Binhang Hua, Qunxing Huang, Alfons Buekensa, Yong Chia, Jianhua Yana, Co-gasification of municipal solid waste with high alkali coal char in a threestage gasifier, *Energy Conversion and Management* 153 (2017) 473–481
- 47) Bingcheng Lin, Jun Wang, Qunxing Huang, Yong Chi. Effects of potassium hydroxide on the catalytic pyrolysis of oily sludge for high-quality oil product. *Fuel*, 2017. 200: 124-133.
- 48) Lin Bingcheng, Mallah, Moussa Mallaye Alhadj, Huang, Qunxing, Ali, Mujahid, Chi Yong, Effects of Temperature and Potassium Compounds on the Transformation Behavior of Sulfur during Pyrolysis of Oily Sludge, *ENERGY & FUELS*, 2017 31,7004-7014
- 49) Jun Wang, Bing-Cheng Lin, Qun-Xing Huang* , Zeng-Yi Ma, Yong Chi , and Jian-Hua Yan, Aromatic Hydrocarbon Production and Catalyst Regeneration in Pyrolysis of Oily Sludge Using ZSM-5 Zeolites as Catalysts, *Energy & Fuels*, 2017, 31 (11), pp 11681–

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- 50) Jun Wang, Tian-Lu Liu, Qun-Xing Huang, Zeng-Yi Ma, Yong Chi, Jian-Hua Yan. Production and characterization of high quality activated carbon from oily sludge. *Fuel Process. Technol.*, 2017. 162: 13-19.
- 51) Tianlu Liu, Jun Wang, Jie Yang, Qunxing Huang, Yong Chi & Jianhua Yan. Contamination of fresh water by petroleum sludge. *Petroleum Science and Technology*, 2017, 35(4): 413-418.

2016

- 52) Peng Lu, Xiaofeng Qian, Qunxing Huang, Yong Chi, Jianhua Yan. Catalytic Cracking of Toluene as a Tar Model Compound Using Sewage Sludge Derived Char. *Energy & Fuels*, 2016, 30(10): 8327-8334.
- 53) Qunxing Huang, Ben Yu, Kunzan Qiu, Guoshun Zhou, Shoukang Wang, Yong Chi, et al. Effect of moisture on sewage sludge combustion temperature profile and heavy metal leaching. *Drying Technol.*, 2016, 34(15): 1810-1819.
- 54) Qunxing Huang, Peng Lu, Binhang Hu, Yong Chi, Jianhua Yan. Cracking of Model Tar Species from the Gasification of Municipal Solid Waste Using Commercial and Waste-Derived Catalysts. *Energy & Fuels*, 2016, 30(7): 5740-5748.
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- 56) Feiyan Mao, Xu Han, Qunxing Huang, Jianhua Yan, Yong Chi. Effect of frequency on ultrasound-assisted centrifugal dewatering of petroleum sludge. *Drying Technology*, 2016, 34(16): 1948-1956.

2015

- 57) Qunxing Huang, Jun Wang, Kunzan Qiu, Zhijuan Pan, Shoukang Wang, Yong Chi, Jianhua Yan, Catalytic pyrolysis of petroleum sludge for production of hydrogen-enriched syngas, *International Journal of Hydrogen Energy*, 2015, 40(46):16077-16085.
- 58) Huang Q, Tang Y, Lu S, et al. Characterization of Tar Derived from Principle Components of Municipal Solid Waste. *Energy & Fuels*, 2015, 29(11): 7266-7274.
- 59) Qunxing Huang, Guoshun Zhou, Ben Yu, Shoukang Wang, Yong Chi, Jianhua Yan. Quantitative model for predicting the desorption energy of water contained in lignite. *Fuel*, 2015, 157, 202-207.
- 60) Wenjuan Li, Qunxing Huang*, Shengyong Lu, Hailong Wu, Xiaodong Li, Jianhua Yan. Life Cycle Assessment of the Environmental Impacts of Typical Industrial Hazardous Waste Incineration in Eastern China. *Aerosol and Air Quality Research*, 2015, 15(1): 242-251.
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- 62) Moussa-Mallaye Alhadj-Mallaha, Qunxing Huang*, Xu Caia, Yong Chia & JianHua Yan. Vitrification of municipal solid waste incineration fly ash using biomass ash as additives. *Environmental Technology*, 2015, 36(5):654-660.
- 63) Qunxing Huang*, Xu Cai, Moussa-Mallaye Alhadj-Mallah, Changming Du, Yong Chi, and Jianhua Yan. The characterization of zinc vapor condensation in fly ash particles using synchrotron X-ray absorption spectroscopy. *Journal of Zhejiang University-SCIENCE A (Applied Physics & Engineering)*, 2015, 16(1): 70-80.

2014

- 64) Shengyong Lu, Lu Chen, Qunxing Huang*, Liqin Yang, Changming Du, Xiaodong Li, Jianhua Yan. Decomposition of ammonia and hydrogen sulfide in simulated sludge drying waste gas by a novel non-thermal plasma. *Chemosphere*, 2014, 117: 781-785.
- 65) Xiaoqing Lin, Qunxing Huang, Tong Chen, Xiaodong Li, Shengyong Lu, Hailong Wu, Jianhua Yan, Miaosheng Zhou, Hua Wang. PCDD/F and PCBz Emissions during Start-up and Normal Operation of a Hazardous Waste Incinerator in China. *Aerosol and Air Quality Research*, 2014, 14(4):1142–1151.
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- 67) Qunxing Huang,* Feiyan Mao, Xu Han, Jianhua Yan, and Yong Chi. Migration of Emulsified Water Droplets in Petroleum Sludge during Centrifugation. *Energy & Fuels*, 2014, 28(8): 4918–4924.
- 68) Qun X. Huang, Ru P. Wang, Li J. Zhang, Yong Chi, and Jian H. Yan. Quantitative Model of Interactions in the Thermal Decomposition of Key Refuse-Derived Fuel Components. *Energy & Fuels*, 2014, 28(2): 1213–1219.
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- 70) Qunxing Huang*, Xu Han, Feiyan Mao, Yong Chi, Jianhua Yan. A model for predicting solid particle behavior in petroleum sludge during centrifugation. *Fuel*, 2014, 117: 95-102.
- 71) Qunxing Huang*, Feiyan Mao, Xu Han, Jianhua Yan, Yong Chi. Characterization of emulsified water in petroleum sludge. *Fuel*, 2014, 118: 214-219.
- 72) Qunxing Huang*, Xu Cai, Moussa Mallaye Alhadj Mallah, Yong Chi, Jianhua Yan. Effect of HCl/SO₂/NH₃/O₂ and mineral sorbents on the partitioning behaviour of heavy metals during the thermal treatment of solid wastes. *Environmental Technology*, 2014, 1-7:
- 73) Qunxing Huang*, Xu Cai, Moussa-Mallaye Alhadj-Mallah, Changming Du, Yong Chi, and Jianhua Yan. Thermal Plasma Vitrification of MSWI Fly Ash Mixed With Different Biomass Ashes. *IEEE TRANSACTIONS ON PLASMA SCIENCE*, 2014, 42: 3549-3554.

2013

- 74) Yu Bo, Zhenyu Huang, Qunxing Huang,* Yanwei Zhang, Junhu Zhou, and Kefa Cen. Combustion Characteristics of Coal–Water Slurry in a Slag-Tap Vertical Cyclone Furnace through Digital Imaging. *Energy & Fuels*, 2013, 27(6): 3427-3437.

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- 76) Qun-xing Huang, Fei Wang*, Hai-dan Zhang, Jian-hua Yan, Ming-jiang Ni, Ke-fa Cen. In-situ CO measurement for gas and oil combustion flame using near infrared tunable diode laser with direct and modulated absorption signals. *Optics Communications*, 2013, 306: 99-105.

2012

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【Software copyrights】

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