



Xushen Han

Department: School of Resources and Environmental Engineering
Professional field: Environmental Engineering, Bioengineering
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Profile

2022-present: Specially-appointed Associate Researcher, School of Resources and Environmental Engineering, East China University of Science and Technology.

2020-2022: Postdoc, Environmental Science and Engineering, East China University of Science and Technology.

2014-2020: Ph.D, Biochemical Engineering, East China University of Science and Technology.

2018-2019: Visiting Student, Biochemical Engineering, University of British Columbia.

2010-2014: Bachelor, Biological Engineering, East China University of Science and Technology.

Research Field

- (1) Bioaugmentation technology for hypersaline wastewater treatment.
- (2) Bio-conversion of biomass to produce bio-based fuels, chemicals and materials.
- (3) Bioleaching of potassium from potash feldspar.

Research results and main published thesis

- 1) Xushen Han*, Yan Jin, Jianguo Yu*. Rapid formation of aerobic granular sludge by bioaugmentation technology: A review. Chemical Engineering Journal, 2022, 437: 134971.
- 2) Zhongyang Qiu#, Xushen Han#, Jianlong He*, Yanan Jiang, Guangli Wang, Zejia Wang, Xiaoyan Liu, Jun Xia, Ning Xu, Aiyong He, Hanqi Gu, Jiaying Xu. One-pot D-lactic acid production using undetoxified acid-pretreated corncob slurry by an adapted *Pediococcus acidilactici*. Bioresource Technology, 2022, 363: 127993.
- 3) Rui Tang, Xushen Han*, Yan Jin, Jianguo Yu*. Do increased organic loading rates accelerate aerobic granulation in hypersaline environment? Journal of Environmental Chemical Engineering, 2022, 10.1016/j.jece.2022.108775.
- 4) Xushen Han, Ran Bi*, Vinay Khatri, Hale Oguzlu, Masatsugu Takada, Jungang Jiang, Feng Jiang*, Jie Bao, Jack N. Saddler*. Use of endoglucanase and accessory enzymes to facilitate mechanical pulp nanofibrillation. ACS Sustainable Chemistry & Engineering, 2021, 9: 1406-1413.
- 5) Xushen Han, Weitao Dong, Jie Bao*. Upgrading steam pretreatment by converting water-soluble carbohydrates into lactic acid prior to pretreatment. Biomass Conversion and Biorefinery, 2021, 10.1007/s13399-020-01183-1.
- 6) Xushen Han, Ran Bi, Hale Oguzlu, Masatsugu Takada, Jungang Jiang, Feng Jiang*, Jie Bao, Jack N. Saddler*. Potential to produce sugars and lignin-containing cellulose nanofibrils from enzymatically hydrolyzed chemi-thermomechanical pulps. ACS Sustainable Chemistry & Engineering, 2020, 8: 14955-14963.
- 7) Lixiang Zheng#, Xushen Han#, Tao Han, Gang Liu, Jie Bao*. Formulating a fully converged biorefining chain with zero wastewater generation by recycling stillage liquid to dry acid pretreatment operation. Bioresource Technology, 2020, 318: 124077.
- 8) Xushen Han#, Li Li#, Jie Bao*. Microbial extraction of biotin from lignocellulose biomass and its application on glutamic acid production. Bioresource Technology, 2019, 288: 121523.
- 9) Xushen Han#, Li Li#, Chengxiang Wei, Jian Zhang, Jie Bao*. Facilitation of L-lactic acid fermentation by lignocellulose biomass rich in vitamin B compounds. Journal of Agricultural and Food Chemistry, 2019, 67: 7082-7086.
- 10) Xushen Han, Jie Bao*. General method to correct the fluctuation of acid based pretreatment efficiency of lignocellulose for highly efficient bioconversion. ACS Sustainable Chemistry & Engineering, 2018, 6: 4212-4219.
- 11) Xushen Han, Feng Hong, Gang Liu*, Jie Bao*. An approach of utilizing water-soluble carbohydrates in lignocellulose feedstock for promotion of cellulosic L-lactic acid production. Journal of Agricultural and Food Chemistry, 2018, 66: 10225-10232.
- 12) Hongsen Zhang#, Xushen Han#, Chengxiang Wei#, Jie Bao*. Oxidative production of xylonic acid using xylose in distillation stillage of cellulosic ethanol fermentation broth by *Gluconobacter oxydans*. Bioresource Technology, 2017, 224: 573-580.