

Dr. Xueyong Ren

Associate Professor, Master Supervisor

Department of Wood Science and Technology, Beijing Forestry University

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Education

Beijing Forestry University,

Post.D. Biology, 2014-2016

Beijing Forestry University,

Ph.D. Wood Science and Technology, 2009-2014

North Carolina State University,

Joint Ph.D. Forest Biomaterials Conversion, 2012-2013

Beijing Forestry University,

B.S. Wood Science and Technology, 2005-2009

Work Experience

Beijing Forestry University,

Department of Wood Science and Technology, College of Materials Science and Technology

Associate Professor (2018.01-Present)

Assistant Professor (2014.07-2017.12)

The University of British Columbia,

Department of Wood Science, Faculty of Forestry

Department of Chemical and Biological Engineering, Faculty of Applied Science

Visiting associate professor (2019.10-2020.10)

Teaching	Thermal Engineering Heat and Mass Transfer Biomass Processing Technologies Comprehensive Professional Practice of Wood Science and Technology
Research	Biomass pyrolysis & pyrolytic product utilization Bio-based sustainable functional nanomaterials Wood thermal engineering process

Professional Societies

Chinese Society of Forestry (CSF), **Member**

Chinese Renewable Energy Society (CRES), **Member**

American Institute of Chemical Engineers (AIChE), **Member**

Biomass Energy and Materials Committee, China National Forest Products Industry Association (BEMC-CNFPIA), **Vice Executive Secretary**

Funded Projects (PI)

1. Project of special funds for basic scientific research operating expenses of national universities (2019ZY04). Study on interface pyrolysis melting mechanism and joint strengthening of rotary friction welding of wood. 150,000 RMB. 2019.04-2020.12.
2. Project of special funds for basic scientific research operating expenses of national universities (2017ZY39). Preparation and curing characteristics of resorcinol-phenol-formaldehyde resin structural adhesive for biomass pyrolysis at room temperature. 150,000 RMB. 2017.05-2018.12.
3. Project of National natural science foundation of China (31650008). Study on selective regulation mechanism of wood fast pyrolysis oil based on structural factors of raw materials. (120,000 RMB) 2017.01-2017.12.
4. Project of China postdoctoral science foundation (2015M581000). Analysis and application of structure-activity relationship between chemical constituents and bioactivity of forest pyrolysis oil. (50,000 RMB) 2015.09-2016.09.
5. Project of special funds for basic scientific research operating expenses of national universities (BLX2014-39). Research on separation, enrichment and activity of biomass pyrolytic oil based on multi-stage refining. (80,000 RMB) 2014.07-2016.07.

Joint Funded Projects (Participator)

1. Project of national key research and development program (2017YFD0601205). Integration and demonstration of green and environment-friendly wood material production technology. (7, 500, 000 RMB) 2017.11-2020.12.
2. Project of national key research and development program (2017YFD0601004). Research on the manufacture technology of wood fiber polymer new material. (5, 680, 000 RMB) 2017.07-2020.12.
3. Project of Beijing science and technology planning program (Z161100001316004). Research, development and demonstration application of mobile pyrolysis equipment and high-value utilization technology of garden waste. (3, 000, 000 RMB) 2016.01-2018.12.

Publications

1. **Xueyong Ren**, Yinlan Shen, Ying Gao, Derong Zhang, Jianmin Chang. Optimization of bonding parameters of laminated wood using a novel bio-based

- RPF adhesive. MATEC Web of Conferences 275, 2019, 01025.
2. **Xueyong Ren**, Hongzhen Cai, Jianmin Chang, Yongmin Fan. TG-FTIR study on the pyrolysis properties of lignin from different kinds of woody biomass. Paper and biomaterials, 2018, 3(2): 1-7.
 3. **Xueyong Ren**, Jiajia Meng, Jianmin Chang, Kelley S. Stephen, Jameel Hasan, Sunkyu Park. Effect of blending ratio of loblolly pine wood and bark on the properties of pyrolysis bio-oils. Fuel processing technology, 2017, 167: 43-49.
 4. **Xueyong Ren**, Hongzhen Cai, Hongshuang Du, Jianmin Chang. The preparation and characterization of pyrolysis bio-oil-resorcinol-aldehyde resin cold-set adhesives for wood construction. Polymers, 2017, 9(6), 232.
 5. **Xueyong Ren**, Liang He, Yanbin Wang, Junwen Cheng. Optimization Extraction, Preliminary Characterization and Antioxidant Activities of Polysaccharides from Semen Juglandis. Molecules, 2016, 21(10):1-14.
 6. **Xueyong Ren**, Jiajia Meng, Andrew M. Moore, Jianmin Chang, et al. Thermogravimetric investigation on the degradation properties and combustion performance of bio-oils. Bioresource Technology, 2014, 152: 267-274.
 7. **Xueyong Ren**, Liang He, Junwen Chen, Jianmin Chang. Optimization of the Solid-state Fermentation and Properties of a Polysaccharide from *Paecilomyces cicadae* (Miquel) Samson and its Antioxidant Activities in Vitro. Plos One, 2014, 9(2): 1-12.
 8. **Xueyong Ren**, Jinsheng Gou, Wenliang Wang, Qiang Li, et al. Optimization of bark fast pyrolysis for the production of phenol-rich bio-oil. Bioresources, 2013, 8(4): 6481-6492.
 9. **Xueyong Ren**, Wenliang Wang, Hui Si, Jianmin Chang, et al. Py-GC-MS examination of intermediates in the vapor from rapid pyrolysis of larch wood and its model components. Research on Chemical Intermediates, 2013, 39 (7): 3221-3234.
 10. **Xueyong Ren**, Wenliang Wang, Tiantian Bai, Hui Si, Jianmin Chang, Hongxing Tian. TG-FTIR Study of the Thermal-Conversion Properties of Holo-Cellulose Derived from Woody Biomass. Spectroscopy and Spectral Analysis, 2013, 9(33): 2392-2397.
 11. **Xueyong Ren**, Zhongtao Zhang, Wenliang Wang, Hui Si, et al. Transformation and products distribution of Moso bamboo and derived components during pyrolysis. Bioresources, 2013, 8(3): 3685-3698.
 12. **Xueyong Ren**, Hongshuang Du, Wenliang Wang, Jinsheng Gou, Jianmin Chang. Analysis of Pyrolysis Process and Gas Evolution Rule of Larch Wood by TG-FTIR. Spectroscopy and Spectral Analysis, 2012, 4(32):944-978.
 13. Wenliang Wang, **Xueyong Ren**, Jianmin Chang, Liping Cai, Sheldon Q. Shi, Characterization of bio-oils and bio-chars obtained from the catalytic pyrolysis of alkali lignin with metal chlorides. Fuel Processing Technology, 2015, 138: 605-

- 611.
14. Wenliang Wang, **Xueyong Ren**, Lufei Li, Jianmin Chang, Liping Cai, Jing Geng, Catalytic effect of metal chlorides on analytical pyrolysis of alkali lignin. *Fuel Processing Technology*, 2015, 134: 345-351.
 15. Tiantian Bai, Jianmin Chang, **Xueyong Ren**, Wenliang Wang, Qianyun Liu, Zhongtao Zhang, TG-FTIR analysis of pyrolytic lignin extracted from different kinds of bio-oil. *Journal of Biobased Materials and Bioenergy*, 2015, 9(1): 101-106.
 16. Yong Cui, Jianmin Chang, Wenliang Wang, Ben Li, **Xueyong Ren**. Preparation of Activated Carbon Using Bio-Oil Phenol-Formaldehyde Resin. *Bioresources*, 2015, 10:3865-3873.
 17. Jiajia Meng, Smirnova I. Tatyana, Xiao Song, Moore Andrew, **Xueyong Ren**, Kelley Stephen, Park Sunkyu and Tilotta David. Identification of free radicals in pyrolysis oil and their impact on bio-oil stability. *RSC Advances*, 2014, 4: 29840-29846.
 18. Hongshuang Du, Jianmin Chang, **Xueyong Ren**, Rui Li, Pengqi Wang, Influence of fast pyrolysis conditions on polyphenols fraction from bio-oil. *Wood Research*, 2014, 59(4): 617-626.
 19. Ben Li, Jizong Zhang, **Xueyong Ren**, Jianmin Chang, Jinsheng Gou, Preparation and characterization of bio-oil modified urea-formaldehyde wood adhesives . *Bioresources*, 2014, 9(3), 5125-5133.
 20. Qingfa Zhang, Hongzhen Cai, **Xueyong Ren**, Lingshuai Kong, Jianbiao Liu, Xuya Jiang. The Dynamic Mechanical Analysis of Highly Filled Rice Husk Biochar/High-Density Polyethylene Composites. *Polymers*, 2017, (9), 628.
 21. Dongbin Fan, Jianmin Chang, Jinsheng Gou, Bihua Xia, **Xueyong Ren**. On the Cure Acceleration of Oil-Phenol-Formaldehyde Resins with Different Catalysts. *Journal of Adhesion*, 2010, 86(08):834-843.

Books

1. **Xueyong Ren**, Jianmin Chang. Theory and technology of forest biomass fast pyrolysis (ISBN 9787517040149). 2016.02. Beijing: China Water-Power Press.
2. **Xueyong Ren**, Yang Zhang, Liang He. Biomass material and energy processing technology (ISBN 9787517050469). 2016.12. Beijing: China Water-Power Press.
3. Jianmin Chang, **Xueyong Ren**. Forest biomass resources and energy utilization technology (ISBN 9787030267054). 2010.02. Beijing: Science Press.

Patents

1. **Xueyong Ren**, Kai Liu, Qirui Liu, Jianmin Chang, Yi Wang. Biomass mobile pyrolysis refining plant based on both solar energy and self-heating. ZL201610962623.6. (Authorized Chinese Patents)
2. **Xueyong Ren**, Jianmin Chang. Method of wood preservative treatment using biomass pyrolysis oil. ZL201610709711.5. (Authorized Chinese Patents)
3. **Xueyong Ren**, Jianmin Chang, Wenliang Wang, Hui Si, Jinsheng Gou, Qiang Li. Method for the preparation of phenolic and aromatic hydrocarbon chemicals by the catalytic conversion of pyrolytic lignin in bio-oil. ZL201310401100.0. (Authorized Chinese Patents)
4. Jianmin Chang, **Xueyong Ren**, Wenliang Wang, Hui Si, Zhongtao Zhang. Method of preparation of bio-oil by the biomass pyrolysis with on-line deoxygenation and hydrogenation process. ZL 201310400143.7. (Authorized Chinese Patents)
5. Jianmin Chang, **Xueyong Ren**, Wenliang Wang, Jinsheng Gou, Zhongtao Zhang. Method for preparing fermentable sugar by hydrolysis of sugar components in biomass pyrolysis oil. ZL201310400242.5. (Authorized Chinese Patents)
6. Jianmin Chang, **Xueyong Ren**, Wenliang Wang, Zhongtao Zhang, Hui Si. Method for the preparation of bio-oil and biochar from the pyrolysis liquefaction of bamboo materials. ZL201210271431.2. (Authorized Chinese Patents)
7. Jianmin Chang, **Xueyong Ren**, Yanzhe Che, Hui Si, Wenliang Wang, Hongshuang Du, Long Li. Self-heating biomass fast pyrolysis liquefaction plant. ZL201210004739.0. (Authorized Chinese Patents)
8. Jianmin Chang, **Xueyong Ren**, Hui Si, Wenliang Wang, Yanzhe Che, Jizong Zhang, Xuejing Gao, Jiangping Yi. Multifunctional fluidized bed biomass pyrolysis conversion device. ZL201010577473.X. (Authorized Chinese Patents)
9. Jianmin Chang, Yong Cui, Wenliang Wang, **Xueyong Ren**, Lufei Li, Hui Si, Yuxiang Yu. Method for preparing mesoporous carbon from bio-oil phenolic resin. ZL 201410213479.7. (Authorized Chinese Patents)
10. **Xueyong Ren**, Jianmin Chang, Xin Ren. Preparation method of pyrolysis oil resorcinol formaldehyde resin adhesive for wood structure building materials. ZL201610712169.9 (Chinese Patent in application)
11. **Xueyong Ren**, Xinying Liu, Qikui Tian, Wenze Cao, Yi Wang, Keyan Yang, Jianmin Chang. Method for grading energy utilization of waste wood material by blending pyrolysis. ZL201711456571.6. (Chinese Patent in application)
12. **Xueyong Ren**, Shan Liu, Heran Jia, Xueyin Yang, Haobo Yang, Wenze Yang, Jianmin Chang, Keyan Yang. Method of preparing bio-oil based structural adhesive curing at room temperature. ZL201711437500.1. (Chinese Patent in application)
13. **Xueyong Ren**, Linwei Li, Xinying Liu, Yongming Fan, Jianmin Chang. Preparation method of fuel cell and membrane electrode based on biomass pyrolysis products. ZL201810987498.3. (Chinese Patent in application)

14. **Xueyong Ren**, Shan Liu, Ying Gao, Jianmin Chang, Jianzhang Li, Shifeng Zhang. Method of preparing the bio-oil based structural adhesive and its new type of integrated wooden material. ZL201811007362.8. (Chinese Patent in application)

National Standards

1. **Xueyong Ren**, Jianmin Chang, Fengyi Chen, Liang He, et al. GB/T 35809-2018 Method for analysis of forestry biomass - Determination of protein content. Issued on Feb. 06, 2018. Implemented on Sep 01, 2018.
2. Hongfei Zhao, Bolin Zhao, Jianmin Chang, Fang Zhou, **Xueyong Ren**, Jinfei Xu. GB/T 35808-2018 Method for analysis of forestry biomass - Determination of cellulose activity. Issued on Feb. 06, 2018. Implemented on Sep 01, 2018.
3. Jun Zhao, Boqin Zhang, Qi Cui, Zhendi Wang, **Xueyong Ren**, Borong Lin, Hongwu Guo, Danzhou Ma, Yubin Zhang. GB/T 31956-2015 Glass fiber reinforced phenolic polymer panel for the construction. Issued on Sep. 11, 2015. Implemented on Aug 01, 2016.

Honors & Awards

1. 2019 National Ecological Civilization Teaching Achievement Award, Chinese National Forestry and Grassland Administration, 2019.
2. Second prize of Beijing teaching achievement, Beijing government, 2018.
3. The 19th China patent excellence award State Intellectual Property Office, 2017.
4. Young talent promoted by Beijing association for science and technology, China, 2017.
5. Beijing outstanding young talents, Organization Department of Beijing Government, 2016.
6. Bluesky award nominee, global top ten investment scenarios to apply new technologies for renewable energy utilization, United Nations Industrial Development Organization, 2016.
7. Third prize in science and technology of Beijing, Beijing Government, China, 2016.
8. Third prize of Liang Xi forestry science and technology, State Forestry Administration, China, 2015.
9. Second prize for technological inventions, Chinese Ministry of Education, China, 2014.
10. Excellent doctoral dissertation of Beijing Forestry University, 2014.
11. National forestry outstanding graduate, Chinese National Forestry and Grassland Administration, 2014.
12. AIChE Student Travel Award, 2013
13. Chinese National Scholarship (Ph.D.), 2013.