Dr. Jingxin Wang
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Director of Renewable Materials and Bioenergy Research Center
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EDUCATION

Jilin Forestry University, Jilin, CHINA	B.S.	1983	Forest/Mechanical Engineering
Northeast Forestry University, Harbin, CHINA	M.S.	1986	Forest/Mechanical Engineering
Northeast Forestry University, Harbin, CHINA	Ph.D.	1990	Forest/Mechanical Engineering
West Virginia University, Morgantown, WV	M.S.	2005	Computer Science
The University of Georgia, Athens, GA	Ph.D.	1997	Forest Resource Management

PROFESSIONAL EMPLOYMENT

2013 – Present. Associate Director for Research. Division of Forestry and Natural Resources, West Virginia University, Morgantown, West Virginia, USA.

2011 – Present. Professor of Forestry and Wood Science, Division of Forestry and Natural Resources, West Virginia University, Morgantown, WV.

2006 – Present. Director of Renewable Materials and Bioenergy Research Center, Division of Forestry and Natural Resources, West Virginia University, Morgantown, WV.

2006 – 2013. Program Coordinator of Wood Science and Technology Program, Division of Forestry and Natural Resources, West Virginia University, Morgantown, West Virginia, USA.

2006- 2011. Associate Professor of Wood Science and Technology, Division of Forestry and Natural Resources, West Virginia University, Morgantown, WV.

2000 – 2006. Assistant Professor. Division of Forestry, West Virginia University, Morgantown, WV.

1998 – 2000. Systems Programmer/Analyst. Computer Sciences Corporation, Financial Services Group, Atlanta, Georgia.

1994 – 1998. Research Assistant/Coordinator. Warnell School of Forest Resources, The University of Georgia, Athens, Georgia.

1993 – 1994. Visiting Associate Professor. Department of Forest Resource Management, University of Helsinki, Helsinki, Finland.

1992 – 1993. Associate Professor. Department of Forest Engineering, Northeast Forestry University, Harbin, China.

1986 – 1992. Assistant Professor. Department of Forest Engineering, Northeast Forestry University, Harbin, China.

SYNERGISTIC ACTIVITIES

- Led and coordinated transdisciplinary research teams across three colleges at WVU, with collaborators from other universities, government agencies and industry partners in the region.
- Served as chair/co-chair/member in six national/international professional societies, including, SAF, FPS, ASABE, SWST, IUFRO.
- Served as an editorial board member/associate editor for four international journals such as Forest Science, Forest Ecosystems, and International J. of Forest Engineering.
- Served as PI/Co-PI for several ongoing USDA or USDOE funded projects on biomaterials and bioenergy.

HONORS AND AWARDS

- 2018. Outstanding Natural Resource Educator. West Virginia University School of Natural Resources Alumni Association. Morgantown, WV.

- 2016 The Benedum Distinguished Scholar Award. West Virginia University. Morgantown, WV.
- 2014 Outstanding Researcher. The Davis College of Agriculture, Natural Resources and Design, West Virginia University, Morgantown, West Virginia.
- 2011 Outstanding Researcher. The Davis College of Agriculture, Natural Resources and Design, West Virginia University, Morgantown, West Virginia.
- 2008 Bioenergy Awareness Days "Grand Challenge" Winner, the United States Department of Agriculture, Washington, DC.
- 2007 The Mid-Career Award. The Davis College of Agriculture, Forestry, and Consumer Sciences, West Virginia University, Morgantown, West Virginia.
- 2006 The Hoyt Faculty Excellence Award. The Hoyt Foundation, West Virginia University, Morgantown, West Virginia.
- 2005 Outstanding Researcher. The Davis College of Agriculture, Forestry, and Consumer Sciences, West Virginia University, Morgantown, West Virginia.

SELECTED GRANTS RECEIVED

1. PI, Mid-Atlantic Sustainable Biomass For Value-Added Products Consortium (MASBio). (Funded by USDA NIFA, $10,000,000)
2. PI, Advancing forest logging residue harvesting and collection logistics in the Eastern United States. (Funded by USDA NIFA, $1,000,000)
3. PI, Enhancing the nanostructure of the lignocellulosic cell wall as a natural template for highly-ordered mesoporus carbons. (Funded by USDA NIFA, $496,168)
4. PI, Strengthening a wood energy team to facilitate bio-business development. (Funded by USDA Forest Service, $250,000)
5. PI, Economic and environmental impacts of woody biomass utilization for bioenergy in the central Appalachian region. (Funded by USDA NIFA, $350,000)
6. PI, Feasibilities of a coal-biomass to liquid fuels plant. (Funded by US DOE, $300,000)
7. Co-PI, Developing a Regional Education Program in Sustainable Land Reclamation Management in Central Appalachia. (Funded by USDA NIFA, $497,266)
8. Co-PI, Unique nanotechnology converts carbon dioxide to valuable products. (Funded by US DOE, $1,000,000)
9. Co-PI (WVU PI), Improved advanced biomass logistics utilizing woody and other feedstocks in the Northeast and Pacific Northwest. (Funded by US DOE, $3,000,000)
10. Co-PI (WVU PI), The Northeast Woody/Warm-season Biomass Consortium. (Funded by USDA NIFA, $10,000,000)

GRADUATE STUDENTS MENTORED OR TRAINED (Total Graduate Advisees as Chair = 25)

Graduated as Chair: Dr. Yaoxiang Li, Northeast Forestry U.; Dr. Mike Vanderberg, WVU; Tony Goff, USDA FSA; Dr. Jingang Liu, Caterpillar Inc.; Greg Hamons, WVU Extension; Mark Jones, AWP International; Charlie Long, WV DNR; William Sharp, WV DNR; Dr. Jinzhuo Wu, Northeast Forestry U.; Dr. Adebola Adebayo, PA; Dr. Benktesh Sharma, Terra Global Capital, CA; Sabina Dhungana, Kansas State U.; Mike Jacobson, Marucci Wood Mill, PA; Pradip Saud, Oklahoma State U.; Dr. Wenshu Lin, NEFU. David Summerfield, ISK, GA. Dr. Damon Hartley, DOE INL, ID; Dr. Weiguo Liu, China. Dr. Zhen Yu, Iowa State U, Amy Falcon, DOE NETL; Mr. John Vance, WVU; Dr. Changle Jiang, WVU; Dr. Yuxi Wang, WVU.

Graduated as Committee Member: Wes Bailes, Michael Fiery, Lichun Jiang, Matthew, Perkowski, Shawn Grushecky, Ivan Anastasov, Liberty Moya, Jagpinder Brar, S. Kumar, Wenjia Jin, Nan Nan, Kevin Harris.

Current Graduates as Chair: Xufeng Zhang, Ph.D. (scheduled for 2022); Wanhe Hu, Ph.D. (scheduled for 2023); Will Smith, M.S. (scheduled for 2023).

Post-Docs Mentored: George Cheng, Auburn Univ.; Clay Altizer, NC Forestry; Rory Jara, Renmatix; Jidong Ma, NEFU; Xinfeng Xie, Michigan Tech; Kui Wang, CAF; Junmin Xu, CAF, China; Nan Nan, WVU; Chunyu Zhang, BFU, China; Nan Nan, WVU.

SELECTED RELEVANT PUBLICATIONS (over the last four years)

Refereed Journal Papers

1. Yakaboylu, G., T. Yumak, C. Jiang, J. Zondlo, **J. Wang**, E. Sabolsky. 2020. Engineered hierarchical porous carbons for supercapacitor applications through chemical pretreatment and activation of biomass precursors. Renewable Energy. Accepted.
2. Wang, Y., **J. Wang**, J. Schuler, D. Hartley, T. Volk, and M. Eisenbies. 2020. Optimization of harvest and logistics for multiple lignocellulosic biomass feedstocks in the Northeastern United States. Energy. https://doi.org/10.1016/j.energy.2020.117260. Impact Factor 5.537
3. Zhang, X., **J. Wang**, J. Vance, Y. Wang, J. Wu, and D. Hartley. 2020. Data analytics for enhancement of forest and biomass supply chain management. Current Forestry Reports. DOI 10.1007/s40725-020-00111-w. Impact Factor 3.951
4. Jiang, C., G. Yayaboylu, T. Yumak, J. Zondlo, E. Sabolsky, and **J. Wang**. 2020. Activated carbons prepared by indirect and direct CO2 activation of lignocellulosic biomass for supercapacitor electrodes. Renewable Energy. 155(2020) 38-52. https://doi.org/10.1016/j.renene.2020.03.111 Impact Factor 5.439
5. Poudel, R., A. Collins, K. Gazal, and **J. Wang**. 2020. Benefit transfer estimation of willingness-to-pay for U.S. wetlands conversion. Forest Policy and Economics. 115 (2020). https://doi.org/10.1016/j.forpol.2020.102157. Impact Factor 3.099
6. Wang, Y., J. Luan, S. Liu, S. Chang, and **J. Wang**. 2019. Microbe-mediated attenuation of soil respiration in response to soil warming in a temperate oak forest. Science of the Total Environment. DOI: *10.1016/j.scitotenv.2019.134563*.
7. Mi, B., **J. Wang**, H. Xiang, F. Liang, J. Yang, Z. Feng, T. Zhang, W. Hu, X. Liu, Z. Liu, B. Fei. 2019. Nitrogen self-doped activated carbons derived from bamboo shoots as a superior adsorbent for methylene blue. Molecules. 24(16): 3012. doi: 10.3390/molecules24163012.
8. Yakaboylu, G., T. Yumak, C. Jiang, J. Zondlo, **J. Wang**, E. Sabolsky. 2019. Preparation of highly porous carbon through slow oxidative torrefaction, pyrolysis and chemical activation of lignocellulosic biomass for high performance supercapacitors. Energy & Fuels. DOI: 10.1021/acs.energyfuels.9b01260.
9. Nan, N. and **J. Wang**. 2019. FIB-SEM Three-dimensional Tomography for Characterization of Carbon-based Materials. Advances in Materials Science and Engineering. https://doi.org/10.1155/2019/8680715.
10. Wang, H. S. Liu, X. Zhang, A. Ming, and **J. Wang**. 2019. Introducing nitrogen-fixing tree species and mixing with Pinus massoniana alters and evenly distributes various chemical compositions of soil organic carbon in a planted forest in southern China. Forest Ecology and Management. https://doi.org/10.1016/j.foreco.2019.117477.
11. Ma, Y., **J. Wang**, W. Tan, J. Jiang, J. Xu, and K. Wang. 2019. Directional liquefaction of lignocellulosic biomass for value added monosaccharides and aromatic compounds. Industrial Crops & Products. 135(2019): 251-259. https://doi.org/10.1016/j.indcrop.2019.04.038. Impact Factor 3.849
12. Wang, H., S. Liu, A. Schindlbacher, and **J. Wang**. 2019. Experimental warming reduced topsoil carbon content and increased soil bacterial diversity in a subtropical planted forest. Soil Biology and Biochemistry. 133(2019) 155-164. https://doi.org/10.1016/j.soilbio.2019.03.004. Impact Factor 4.926
13. Yang, B., B. Lv, N. Wang, S. Liu, Y. Zhou, J. Schuler, Q. Hao, and **J. Wang**. 2018. Why *Vatica mangachapoi* shows stronger capability of natural regeneration in the coastal barren sandy soil-seed rain dynamic? ASIA LIFE SCIENCES 27(2): 263-275, 2018.
14. Hao, J., X. Wu, G. Gloria, **J. Wang**, G.Dahle, N. Nan. 2018. Deformation and Failure Behavior of Wooden Sandwich Composites with Taiji Honeycomb Core Under a Three-Point Bending Test. Materials 2018, 11, 2325; doi:10.3390/ma11112325.

15. Yu, Z., S. Liu, **J. Wang**, X. Wei, J. Schuler, P. Sun, R. Harper, N. Zegre. 2018. Natural forests exhibit higher carbon sequestration and lower water consumption than planted forests in China. Global Change Biology. 2018;00:1–10. https://doi.org/10.1111/gcb.14484. Impact Factor 8.997
16. Wang, H., S. Liu, X. Zhang, Q. Mao, X. Li, Y. You, **J. Wang**, M. Zheng, W. Zhang, X. Lu, J. Mo. 2018. Nitrogen addition reduces soil bacterial richness while phosphorus addition alters community composition in a N-rich tropical forest. Soil Biology & Biochemistry. 127 (2018) 22-30. https://doi.org/10.1016/j.soilbio.2018.08.022
17. Luan, J., S. Liu, **J. Wang**, S. Chang, X. Liu, H. Lu, and Y. Wang. 2018. Tree species diversity promotes soil carbon stability by depressing the temperature sensitivity of soil respiration in temperate forests. Science of the Total Environment. 645 (2018) 623-629. https://doi.org/10.1016/j.scitotenv.2018.07.036
18. Zhang, X., S. Liu, Y. Huang, S. Fu, **J. Wang**, A. Ming, X. Li, M Yao, and H. Li. 2018. Tree species mixture inhibits soil organic carbon mineralization accompanied by decreased r-selected bacteria. Plant Soil. https://doi.org/10.1007/s11104-018-3755-x
19. Mi, B., X. Chen., C. Jiang, **J. Wang.** 2018. Nitrogen-doped porous carbon derived from bamboo shoot as solid base catalyst for knoevenagel condensation and transesterification reactions. Catalysts **2018**, 8, 232; doi:10.3390/catal8060232.
20. Wang, H., S. Liu, and **J. Wang**. 2018. Mixed-species plantation with *Pinus massoniana and Castanopsis hystrix* accelerates C loss in recalcitrant coniferous litter but slows C loss in labile broadleaf litter in southern China. Forest Ecology and Management. https://doi.org/10.1016/j.foreco.2018.04.024
21. Liang, X., S. Liu, H. Wang, and **J. Wang**. 2018. Variation of carbon and nitrogen stoichiometry along a chronosequence of natural temperate forest in northeastern China. Journal of Plant Ecology. 11(3): 339-350. doi: 10.1093/jpe/rtx008
22. Wu, J., L. Kong, **J. Wang**, and X. Dong. 2018. Nutrient Cycling and Biomass Flows for a Low-quality Forest Stand Improvement System in the Lesser Khingan Range of China. Journal of Sustainable Forestry. 10.1080/10549811.2018.1440245.
23. Yang, H., S. Liu, K. Cao, **J. Wang**, Y. Li, and H. Xu. 2017. Characteristics of typhoon disturbed gaps in an old-growth tropical montane rainforest in Hainan Island, China. J. For. Res. (2017) 28(6): 1231-1239. DOI 10.1007/s11676-017-0402-y. Impact Factor 0.774
24. Liu. W. **J. Wang**, D. Bhattacharyya, Y. Jiang, and D. DeVallance. 2017. Economic and Environmental analyses of Coal and Biomass to Liquid Fuels. Energy 141 (2017) 76-86. http://dx.doi.org/10.1016/j.energy.2017.09.047.
25. Liu, W., **J. Wang**, T. Richard, D. Hartley, S. Spatari, and T. Volk. 2017. Economic and Life Cycle Assessments of Biomass Utilization for Bioenergy Products. Biofuels, Bioproducts and Biorefining. 10.1002/bbb.1770.
26. Ma, Y, W. Tan, K. Wang, **J. Wang**, J. Jiang, and J. Xu. 2017. An insight into the selective conversion of bamboo biomass to ethyl glycosides， ACS Sustainable Chemistry & Engineering. 2017, 5, 5880−5886. DOI: 10.1021/acssuschemeng.7b00618.
27. Wang, H., S. Liu, **J. Wang**, D. Li, Z. Shi, Y. Liu, J. Xu, P. Hong, H. Yu, Z. Zhao; A. Ming, L. Lu, D. Cai. 2017. Contrasting responses of heterotrophic and root-dependent respiration to soil warming in a subtropical plantation. Agricultural and Forest Meteorology. 247 (2017) 221-228. http://dx.doi.org/10.1016/j.agrformet.2017.07.025.
28. Yu, Z., **J. Wang**, S. Liu, J. Rentch, P. Sun, C. Lu. 2017. Global gross primary productivity and water use efficiency changes under drought stress. Environmental Research Letters. 12 (2017) 014016, https://doi.org/10.1088/1748-9326/aa5258.
29. Hu, Z., S. Liu, X. Liu, L. Fu, **J. Wang**, K. Liu, X. Huang., Y. Zhang, and F. He. 2016. Soil respiration and its environmental response varies by day/night and by growing/dormant season in a subalpine forest. Scientific Reports | 6:37864 | DOI: 10.1038/srep37864.
30. Huang, X., S. Liu, Y. You, Y. Wen, H. Wang, and **J. Wang**. 2016. Microbial community and associated enzymes activity influence soil carbon chemical composition in Eucalyptus urophylla plantation with mixing N2-fixing species in subtropical China. Plant Soil. DOI 10.1007/s11104-016-3117-5.

31. Liu, Y., S. Liu, S. Wan, **J. Wang**, H. Wang, and K. Liu. 2016. Effects of experimental throughfall reduction and soil warming on fine root biomass and its decomposition in a warm temperate oak forest. Sci. Total Environ. 2016 Sep 29. pii: S0048-9697(16)31811-3. doi: 10.1016/j.scitotenv.2016.08.116.
32. Liu, Y., S. Liu, S. Wan, **J. Wang**, and J. Luan and H. Wang. 2016. Differential responses of soil respiration to soil warming and experimental throughfall reduction in a transitional oak forest in central China. Agricultural and Forest Meteorology. 226-227 (2016): 186-198. http://dx.doi.org/10.1016/j.agrformet.2016.06.003.
33. Wu, J., **J. Wang**, W. Lin. 2016. Comparative Analysis of Primary Forest Products Export in the U.S. and China Using a Constant Market Share Model. Forest Products Journal. 66(7/8): 495-503. doi:10.13073/FPJ-D-14-00077
34. Xu, J., X. Xie, **J. Wang** and J. Jiang. 2016. Directional liquefaction coupling fractionation of lignocellulosic biomass for platform chemicals. Green Chemistry. DOI: 10.1039/C5GC03070F
35. Yu, Z., **J. Wang**, S. Liu, S. Piao, P. Ciais, S. Running, B. Poulter, J. Rentch, and P. Sun. 2016. Decrease in winter respiration explains 25% of annual northern forest carbon sink enhancement over the last 30 years. Global Ecology and Biogeography. DOI:10.1111/geb.12441
36. Wang, H., J. Liu, **J. Wang**, Z. Shi, J. Xu, P. Hong, A. Ming, H. Yu, L. Chen, L. Lu, D. Cai. 2016. Differential effects of conifer and broadleaf litter inputs on soil organic carbon chemical composition through altered soil microbial community composition. Scientific Reports | 6:27097 | DOI: 10.1038/srep27097.
37. Wang, K., J. Jiang, J. Xu, J. Feng, and **J. Wang**. 2016. Effective saccharification of holocellulose over multifunctional sulfonated char with fused ring structures under microwave irradiation. RSC Advances. 2016 (6), 14164 – 14170.
38. Wang，K., X. Xie, J. Jiang, and **J. Wang**. 2016. Sulfolane pretreament of shrub willow to improve enzymatic saccharification. Cellulose. DOI: 10.1007/s10570-016-0875-4.
39. Ma, J., S. Liu, Z. Shi, and **J. Wang**. 2016. Assessing stand structure in successional stages of dark coniferous forests in western Sichuan, China. Journal of Forestry Research. DOI 10.1007/s11676-015-0197-7.
40. Zhang, X., S. Liu, X. Li, **J. Wang**, Q. Ding, H. Wang, C. Tian, M. Yao, J. An, and Y. Huang. 2016. Changes of soil prokaryotic communities after clear cutting in a karst forest: evidences for cutting-based disturbance promoting deterministic processes. FEMS Microbiology Ecology. 2016: 92(3). pii: fiw026. doi: 10.1093/femsec/fiw026. Epub 2016 Feb 15.

Book and Book Chapters

1. DeVallance, D., Wang T., Xie X., **Wang J.** 2020. Advancements in Thermochemical Modification of Wood for Bioenergy and Biomaterial Applications. In: Mitra M., Nagchaudhuri A. (eds) Practices and Perspectives in Sustainable Bioenergy. Green Energy and Technology. Springer, New Delhi. **DOI**https://doi.org/10.1007/978-81-322-3965-9_10.
2. **Wang, J.** 2017. Introduction to Computing Applications in Forestry and Natural Resource Management. CRC Press Taylor & Francis Group. Boca Raton, Florida, USA. 378 pp