

# Qiang Li, Ph.D

## Professor (Master/Ph.D. advisor)

College of Engineering, College of Horticulture and Forestry Science (Affiliated)  
Huazhong Agricultural University  
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Tel: +86-18771920287; E-mail: [qiang-li@mail.hzau.edu.cn](mailto:qiang-li@mail.hzau.edu.cn)



### A. Research Interests

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1. **Closed-loop Agriculture:** Agricultural nano-biotechnologies, crop residue derived multifunctional materials and devices, carbon flow in agricultural ecosystem
2. **Modern Lignocellulosic Biorefinery:** Multistream integrated lignocellulosic biorefinery (MIBR); Lignin waste valorization; Biomass processing and bioeconomy

### B. Education and Professional Preparation

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<b>Scientist I</b>	2021.4-2021.12	Department of Plant Pathology & Microbiology <b>Texas A&amp;M University (College Station, USA)</b>
<b>Postdoc</b>	2020.1~2021.3	Department of Mechanical & Industrial Engineering <b>Northeastern University (Boston, USA)</b>
<b>Postdoc</b>	2016.1~2019.1	Department of Plant Pathology & Microbiology <b>Texas A&amp;M University (College Station, USA)</b>
<b>Ph.D.</b>	2011.10~2015.9	<b>Hokkaido University (Sapporo, Japan)</b> <i>Major: Wood Science</i>
<b>M.E.</b>	2008.9~2011.7	<b>China National Pulp &amp; Paper Research Institute</b> <i>Major: Paper Engineering</i>
<b>B.E.</b>	2004.9~2008.7	<b>South China University of Technology</b> <i>Major: Light Chemical Engineering (Paper Engineering)</i>

### C. Research Experience

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#### 1. Scientist I: Texas A&M University (USA)

**PI: Prof. Joshua S. Yuan**, 2021.4-now

*Plant design enabled advanced manufacturing*

- Genetic regulation of lignin biosynthesis in energy crops/wood for quality carbon fiber manufacturing.
- Genetic regulation of lignin biosynthesis in energy crops/wood for energy storage.

*Clean water for sustainable future*

- Water desalination.
- Nano-plastics removal for water remediation.

## 2. Postdoc Research Associate: Northeastern University (USA)

**Advisor: Prof. Hongli Zhu**, 2020.1-2021.4

*Solid-state ion-conductive biopolymer for all-solid-state lithium battery*

- Woody polymer-based electrolyte for all-solid-state battery
- Biopolymer composite film for all-solid-state battery
- Polymer electrolyte-lithium metal interphase

*Electrically conductive materials for energy storage*

- Lignin-derived flow battery electrolyte
- Biomass and biopolymer-derived anode materials
- Manipulation of woody polymer chemistry for quality flow battery

*Electrospinning for functional nanomaterials*

- Flexible and wearable energy storage devices
- Lignocellulosic biomass for superior ion conductor

## 3. Postdoc Research Associate: Texas A&M University (USA)

**Advisor: Prof. Joshua S. Yuan**, 2016.1-2020.1

*Lignin chemistry—function relationship of lignin carbon fibers*

- Clarified how lignin heterogeneity impacts on carbon fiber performances
- Developed novel fractionation strategies to trim lignin chemistry and enhance carbon fiber mechanical and electroconductive performance
- Modify lignin chemistry to enhance multiple lignin-derived bioproducts.

*Multi-stream Integrated Biorefinery (MIBR)*

- Multistream integrated lignin-based products enabled by lignin fractionation: carbon fiber, lipid, and asphalt binder modifier
- Universal lignin processing technologies for concurrently enhancing lignin carbon fiber properties, lignin-to-lipid conversion efficiency, and asphalt binder performance

## 4. Research Assistant: Hokkaido University (Japan)

Advisor: Prof. Yasumitsu Uraki, 2011.10~2015.9

*Artificial Wood Cell Wall*

- Made honeycomb-patterned bacterial cellulose film as template for artificial wood cell wall
- Developed artificial wood cell wall by assembling xylan and synthesizing DHP lignin
- Clarified xylan function in regulating lignin deposition and lignin  $\beta$ -O-4 linkage formation

## D. Recognition and Awards

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1. 2018, Nominee of **Royal Society of Chemistry (RSC) 2018 Beilby Medal and Prize** (cited for the contribution of lignin waste fractionation for making lignin carbon fiber)
2. 2017, **Outstanding Ph.D-Level Scientist**, Plant Pathology and Microbiology Department, Texas A&M University
3. 2014, **Ph.D Student Travel Scholarship** (to 13<sup>th</sup> European Workshop on Lignocellulosics and Pulp), Graduate School of Agriculture, Hokkaido University

## E. Peer-reviewed Publications

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### After joining Huazhong Agricultural University (2021.12~now)

#### Published:


1. Xiao Fu, Ze Zheng, Zhimin Sha, Hongliang Cao, Qiaoxia Yuan, Hongbo Yu\*, **Qiang Li\***. Biorefining Waste into Nano-biotechnologies Can Revolutionize Sustainable Agriculture. *Trends in Biotechnology* **2022**. (In press, IF 21.942, 一区).
2. Minghao Chen; Yiqin Wang; Jie Lu; Jian Du; Yehan Tao; Yi Cheng; **Qiang Li\***; Haisong Wang\*. Combinatorial pretreatment of reed straw using liquid hot water and lactic acid for fermentable sugar production. *Fuel* **2022**. (In press, IF 8.035, 一区).
3. Youming Xu<sup>#,\*</sup>, **Qiang Li<sup>#</sup>**, Liping Man. Bamboo-Derived Carboxymethyl Cellulose for Liquid Film as Renewable and Biodegradable Agriculture Mulching. *Inter. J. Biol. Macromol.*, **2021**, 135, 1006-1019. (<sup>#</sup>共同一作, IF 8.025, 一区)
4. Yiqin Wang, Jian Du, **Qiang Li**, Yehan Tao, Yi Cheng, Jie Lu and Haisong Wang. Bioconversion of corn cob into multi-functional feed additive with rich xylo-oligosaccharide and lactic acid. *J. Agri. Food Chem.* **2022**, (IF 5.895, 一区).
5. Hanzhang Wang; Guoliang Chen; Wei Zhang; Xu Han; **Qiang Li**. Molecular manipulation of lignin by phyto-genic protein to enable its multifunctionality for water resistance and anti-mildew adhesive. *Industrial Crops and Products* **2022** (IF 5.645, 一区)
6. Lei Wang, Xinyi Zhu, Xue Chen, Yifan Zhang, Haitao Yang, **Qiang Li**, Jungang Jiang. Isolation and characteristics of nanocellulose from hardwood pulp via phytic acid pretreatment. *Industrial Crops and Products* **2022**, 182, 114921-114928. (IF 5.645, 一区)

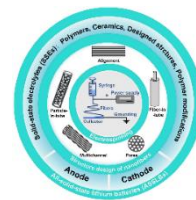
#### Under review:


7. **Qiang Li**, Youming Xu, Cong Liu, Han Lin, Kunxi Wang, Zhuang Han. Development of vascular cambium of *Taxodium ascendens* and its seasonal activities in subtropical China. *Plants* **2022**. (Minor revision, IF 4.658, JCR 一区).
8. Xiao Fu, Shuai Zhang, Xu Zhang, Hongliang Cao, Qiaoxia Yuan, Hongbo Yu\*, **Qiang Li\***. Surface Engineering of Fungal Mycelium Unleashes Microplastic Remediation from Water with Record Capacity. Submitted to *Matter* **2022**. (IF 14.957, 一区).
9. Fang Ye, Jun Ye, **Qiang Li\***, Jian Xiong\*. A strong, flexible, and anti-counterfeiting fluorescent composite hydrogel from carboxymethyl cellulose-Eu(III) crosslinked polyvinyl alcohol. Submitted to *J. Mater. Chem. A* **2022** (IF 14.511, 一区).
10. **Qiang Li**, Youming Xu, Caixia Zhou, Han Lin, Zhuang Han, Hongbo Zheng. Secondary wall thickening and bordered pit development in the periodic cambium of *Populus deltoides*. *BioResources* **2022**. (Major revision, IF 1.747, 三区).

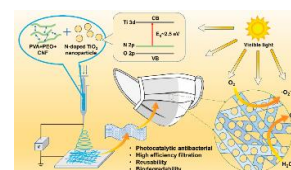
### Before joining Huazhong Agricultural University


11. **Qiang Li**, Daxian Cao, Mandar T. Naik, Yunqiao Pu, Xiao Sun, Pengcheng Luan, Arthur J. Ragauskas, Yuyue Zhao, Fangqi Chen, Yi Zheng, Hongli Zhu. Molecular Engineering of Biorefining Lignin for Solid-State Electrolyte. *ACS Sustainable Chem. Eng.* **2022**, 10, 27, 8704–8714 (IF 9.224, 一区).

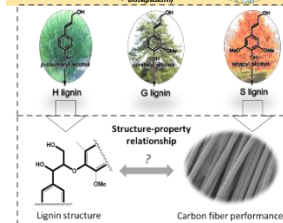
12. **Qiang Li**, Xiao Sun, Daxian Cao, Ying Wang, Hongli Zhu. Electrospinning for Structural Designs in All-solid-state Lithium Batteries. *Electrochemical Energy Reviews*, **2022** (In press, IF 32.804, —)




13. **Qiang Li**, Yongchao Yin, Daxian Cao, Pengcheng Luan, Ying Wang, Xiao Sun, Hongli Zhu. Photocatalytic rejuvenation enabled self-sanitizing, reusable, and biodegradable masks against COVID-19. *ACS Nano*, **2021**, 15(7), 11992–12005 (IF 18.027, —)




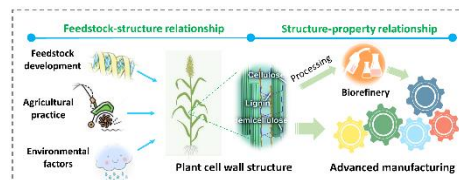
14. **Qiang Li**, Cheng Hu, Mengjie Li, Phuc Truong, Jinghao Li, Hao-Sheng Lin, Mandar T. Naik, Sisi Xiang, Brian E. Jackson, Winson Kuo, Wenhao Wu, Yunqiao Pu, Arthur J. Ragauskas, Joshua S. Yuan. Enhancing Multifunctional Properties of Renewable Lignin Carbon Fiber *via* Defining Structure-Property Relationship Using Different Biomass Feedstock. *Green Chem.*, **2021**, 23, 3725-3739. (IF 11.034, —)




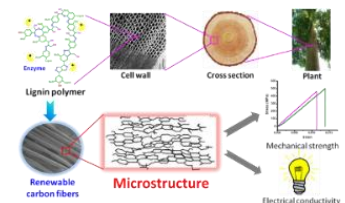
15. Xiao Sun<sup>#</sup>, **Qiang Li**<sup>#</sup>, Daxian Cao<sup>#</sup>, Ying Wang, Alexander Anderson, Hongli Zhu. High Surface Area N-doped Carbon Fibers with Accessible Reaction Sites for All-solid-state Lithium-sulfur Batteries. *Small*, **2021**, 18, 2105678 (#共同一作, 15.153, —)

16. Chao Liu<sup>#</sup>, Pengcheng Luan<sup>#</sup>, **Qiang Li**<sup>#</sup>, Zheng Cheng, Yang Yang, Xiao Sun, Daxian Cao, Hongli Zhu. Biodegradable, Hygienic, and Compostable Tableware from Sugarcane and Bamboo Fibers as Plastic Alternative. *Matter*, **2020**, 3, 2066-2079. (#共同一作, IF 19.967, AAAS EurekAlert!等多家媒体报道)

17. **Qiang Li**, Cheng Hu, Mengjie Li, Phuc Truong, Mandar T. Naik, William L. Rooney, Joshua S. Yuan. Discovering Biomass Structural Determinants Defining the Properties of Plant-derived Renewable Carbon Fiber. *iScience* **2020**, 23, 101405. (IF 6.107, —)



18. **Qiang Li**, Cheng Hu, Heidi Clarke, Mengjie Li, Patrick Shamberger, Wenhao Wu, Joshua S. Yuan. Microstructure Defines the Electroconductive and Mechanical Performance of Plant-derived Renewable Carbon Fiber. *Chem. Commun.*, **2019**, 55, 12655-12658. (IF 6.222, —)



19. **Qiang Li**, Mengjie Li, Hao-Sheng Lin, Cheng Hu, Phuc Truong, Tan Zhang, Hung-Jue Sue, Yunqiao Pu, Arthur J. Ragauskas, Joshua S. Yuan. Non-solvent Fractionation of Lignin Enhances Carbon Fiber Performance. *ChemSusChem*, **2019**, 12, 3249-3256. (IF 9.140, —)

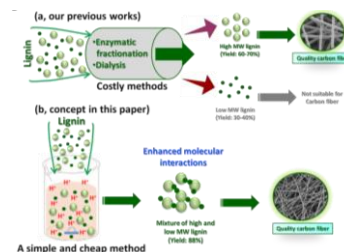


20. Meixia Chen, Jie Lu, Yi Cheng, **Qiang Li**<sup>\*</sup> and Haisong Wang<sup>\*</sup>. Novel Process for the

Coproduction of Xylooligosaccharide and Glucose from Reed Scraps of Reed Pulp Mill. *Carbohydr. Polym.* **2019**, 215, 82-89. (\*共同通讯作者, IF 10.723, 一区)

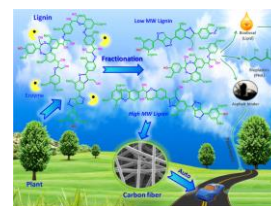
21. Yi Meng, Jie Lu, Yi Cheng, **Qiang Li**\* and Haisong Wang\*. Lignin-based Hydrogels: A Review of Preparation, Properties, and Application. *Inter. J. Biol. Macromol.*, **2019**, 135, 1006-1019. (\*共同通讯作者, IF 8.025, 一区)

22. **Qiang Li**, Mandar Naik, Hao-Sheng Lin, Cheng Hu, Wilson K. Serem, Li Liu, Pravat Karki, Fujie Zhou, Joshua S. Yuan. Tuning Hydroxyl Groups for Quality Carbon Fiber of Lignin. *CARBON*, **2018**, 139, 500-511. (IF 11.307, 一区).

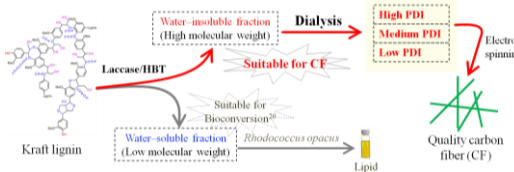


23. Meixia Chen<sup>#</sup>, **Qiang Li**<sup>#</sup>, Ya Zhang, Haiming Li, Jie Lu, Yi Cheng, Haisong Wang. Xylo-oligosaccharides Enriched Yeast Protein Feed Production from Reed Sawdust. *Bioresource Technol.* **2018**, 270, 738-741. (#共同一作, IF 11.889, 一区).

24. **Qiang Li**, Shangxian Xie, Wilson K. Serem, Mandar T. Naik, Li Liu, Joshua S. Yuan. Quality Carbon Fiber from Fractionated Lignin. *Green Chem.*, **2017**, 19, 1628-1634. (外被封文章, 并被 15 家以上主流媒体报道, 包括 AAAS EurekAlert!) (IF 11.034, 一区).



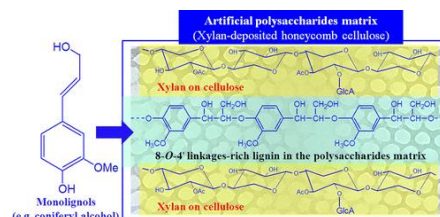
25. **Qiang Li**, Wilson K. Serem, Wei Dai, Yue Yuan, Mandar T. Naik, Shangxian Xie, Pravat Karki, Li Liu, Hung-Jue Sue, Hong Liang, Fujie Zhou, Joshua S. Yuan. Molecular Weight and Uniformity Define the Mechanical Performance of Lignin-based Carbon Fiber. *J. Mater. Chem. A*. **2017**, 5, 12740-12746. (IF 14.511, 一区).



26. Shangxian Xie<sup>#</sup>, **Qiang Li**<sup>#</sup>, Pravat Karki, Fujie Zhou, Joshua S. Yuan. Lignin as Renewable and Superior Asphalt Binder Modifier. *ACS Sustainable Chem. Eng.* **2017**, 5 (4), 2817-2823. (#共同一作, IF 9.224, 一区).

27. **Qiang Li**, Arthur J. Ragauskas, Joshua S. Yuan. Lignin Carbon Fiber: The Path for Quality. *TAPPI J.*, **2017**, 16(03), 107-108. (Special features, IF 0.633, 四区).

28. **Qiang Li**, Keiichi Koda, Arata Yoshinaga, Keiji Takabe, Matatsugu Shimomura, Yuji Hirai, Yutaka Tamai, Yasumitsu Uraki. Dehydrogenative Polymerization of Coniferyl Alcohol in Artificial Polysaccharides Matrices: Effects of Xylan on the Polymerization. *J. Agric. Food Chem.*, **2015**, 63, 4613-4620. (IF 5.895, 一区).



29. Bin Long, Bart Fischer, Yining Zeng, Zoe Amerigian, **Qiang Li**, Henry Bryant, Man Li, Susie Dai, and Joshua Yuan. Machine learning-informed and synthetic biology-enabled semi-continuous algal cultivation to unleash renewable fuel productivity. *Nature Communications*

- 2022**, 13, 54 (IF 17.694, 一☒)
30. Bing Xu, **Qiang Li**, Yuanqiao Pu, Shangxian Xie, Arthur J. Ragauskas, Jorge Arreola-Vargas, Zhi-Hua Liu and Joshua S. Yuan. A Unique Bacterial Pelletized Cultivation Platform in *Rhodococcus opacus* PD630 Enhanced Lipid Productivity and Simplified Harvest for Lignin Bioconversion. *ACS Sustainable Chem. Eng.* **2022**, 10, 3, 1083–1092 (IF 9.224, 一☒).
  31. Daxian Cao, **Qiang Li**, Xiao Sun, Ying Wang, Xianhui Zhao, Ercan Cakmak, Wentao Liang, Alexander Anderson, Soydan Ozcan, Hongli Zhu. Amphipathic Binder Integrating Ultrathin and Highly Ion-Conductive Membrane for Cell-Level High-Energy-Density All-Solid-State Batteries. *Advanced Materials*, **2021**, 33, 2105505 (IF 32.086, 一☒)
  32. Pengcheng Luan, Yuyue Zhao, **Qiang Li**, Daxian Cao, Ying Wang, Xiao Sun, Chao Liu, Hongli Zhu. Compressible Ionized Natural 3D Interconnected Loofah Membrane for Salinity Gradient Power Generation. *Small*, **2021**, 2104320 (IF 15.153, 一☒)
  33. Cheng Hu<sup>#</sup>, Mingzhen Zhao<sup>#</sup>, **Qiang Li**, Zhihua Liu, Naijia Hao, Xianzhi Meng, Jinghao Li, Furong Lin, Chenxuan Li, Lei Fang, Susie Y. Dai, Arthur J. Ragauskas, H.J. Sue, Joshua S. Yuan. Phototunable Lignin Plastics to Enable Recyclability. *ChemSusChem*, **2021**, 14, 1-11. (IF 9.140, 一☒)
  34. Chao Liu, Liqiang Wan, **Qiang Li**, Avi Natan, Xiao Sun, Daxian Cao, Yang Yang, Pengcheng Luan, Hongli Zhu. Ice-Templated Anisotropic Flame-Resistant Boron Nitride Aerogels Enhanced through Surface Modification and Cellulose Nanofibrils. *ACS Applied Polymer Materials*, **2021**, 3, 1358–1367. (IF 4.855)
  35. Man Li, Zhi-Hua Liu, Naijia Hao, Michelle L. Olson, **Qiang Li**, Samarthyha Bhagia, Katy C. Kao, Arthur. J. Ragauskas, Shangxian Xie and Joshua S. Yuan. Synergistic Improvement of Carbohydrate and Lignin Processability by Biomimicking Biomass Processing. *Front. Energy Res.* **2021**, 8, 1-10. DOI: 10.3389/fenrg.2020.00194 (IF 3.858)
  36. Chao Liu, Pengcheng Luan, **Qiang Li**, Zheng Cheng, Yang Yang, Pengyang Xiang, Detao Liu, Yi Hou, Hongli Zhu. Bio-polymers Derived from Trees as Sustainable Multifunctional Materials: A Review. *Adv. Mater.* **2020**, 2001654. (IF 32.086, 一☒)
  37. Daxian Cao, Xiao Sun, **Qiang Li**, Avi Natan, Hongli Zhu. Lithium Dendrite in All-Solid-State Batteries: Growth Mechanisms, Suppression Strategies, and Characterizations. *Matter* **2020**, 3, 57-94. (IF 19.967, 一☒)
  38. Pan Jiang, **Qiang Li**, Ce Gao, Jie Lu, Yi Cheng, Haisong Wang. Fractionation of Alkali Lignin by Organic Solvents for Biodegradable Microsphere through Self-assembly. *Bioresource Technol.* **2019**, 289, 121640-121649. (IF 11.889, 一☒)
  39. Guoning Guo, Xuan Liu, Ran Li, **Qiang Li**, Hongbo Yu, Mengjie Li. Characterization of tobacco stalk lignin using NMR spectrometry and its pyrolysis behavior at different temperatures. *J. Anal. Appl. Pyrol.* **2019**, 14, 104665-104670. (IF 6.437, 一☒)
  40. Pranav Bagaria, **Qiang Li**, Ashok Dastidar, Chad Mashuga. Classification of Particle Breakage Due to Dust Dispersion. *Powder Technol.* **2019**, 342, 204-213. (IF 5.640, 二☒).
  41. Yasumitsu Uraki, Liang Zhou, **Qiang Li**, Teuku Beuna Bardant, Keiichi Koda. Honeycomb-patterned Cellulose as a Promising Tool to Investigate Wood Cell Formation and Deformation. In: *Cellulose Science and Technology: Chemistry, Analysis, and Applications*. Eds: Thomas Rosenau, Antje Potthast & Johannes Hell. John Wiley & Sons, Inc. **2018 (Book Chapter)**
  42. Yan Shi, Xu Yan, **Qiang Li**, Xin Wang, Mingren Liu, Shangxian Xie, Liyuan Chai, Joshua S. Yuan. Direct Bioconversion of Kraft Lignin to Polyhydroxyalkanoate by *Cupriavidus basilensis* B-8 without Any Pretreatment. *Process Biochem.* **2017**, 52, 238–242. (IF 4.885, 三☒).
  43. Yun Hu, Jingang Liu, **Qiang Li**. Influence of Different Preparation Methods of MFC on Its

- Strengthening Performance in Paper. *Transactions of China Pulp & Paper*, **2015**, *30*, 13-17.
44. **Qiang Li**, Jingang Liu, Bisong Wang. The Effect of Air on Operation Stability of Curtain Coating. *China Pulp & Paper*, **2011**, *30*, 66-71.
  45. Jun Sun, Jingang Liu, Bisong Wang, **Qiang Li**. The Application of Surfactants in Curtain Coating. *China Pulp & Paper*, **2010**, *29*, 19-23.
  46. **Qiang Li**, Li Xu, Jun Sun. The Development and Application of Neutral Deinking Technology. *East China Pulp & Paper Industry*, **2010**, *41*, 13-16.
  47. **Qiang Li**, Jun Sun, Li Xu. The Formation and Influence of Hydrolysis of Hexenuronic Acid in Pulp and the Methods of Removing HEXA. *Heilongjiang Pulp & Paper*, **2010**, *1*, 25-28.
  48. **Qiang Li**, Jun Sun, Li Xu. The Application of Constructed Wetland in Wastewater Treatment in Paper-making Industry. *Hubei Pulp & Paper*, **2010**, *4*, 7-11.
  49. Qiu Yi, Jun Ye, Yanlin Bi, **Qiang Li**, Lu Lin. Influence of Microwave Irradiation on Thermal Property and Crystal with High Moisture Content Structures of Tapioca Starch. *Paper Science & Technology*, **2007**, *2*, 34-37.

## F. Patents

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1. Joshua S. Yuan, **Qiang Li**. Lignin Fractionation and Fabrication for Quality Carbon Fiber. US20200407884A1.
2. Joshua S. Yuan, Shangxian Xie, **Qiang Li**. Conversion of Lignin into Bioplastics and Lipid Fuels. WO/2016/154631. (*Pending*)
3. Jingang Liu, **Qiang Li**, Bisong Wang. A Method for Measuring the Air Content of Coating. CN103884645B.
4. Jingang Liu, Bisong Wang, **Qiang Li**. A Method for the Removal of Air Bubbles in Coating. CN103882775B.

## G. Talks and Posters at Conferences

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### Invited talk (one conference chair):

1. **Qiang Li**, The State-of-the-Art of Current Lignin-based Carbon Fiber. The 6<sup>th</sup> International Carbon Materials Conference & Exposition, Nov. 16-18, 2022, Shenzhen, Guangdong
2. **Qiang Li**. High quality carbon fiber and functional fiber derived from lignocellulosic biomass. The 7<sup>th</sup> International Industrial Conference on Bio-Based Materials, Aug. 9-11, 2022, Ningbo, Zhejiang (Chair)
3. **Qiang Li**. Biomass to packaging: Natural fiber to pave green future. International Conference on Green Packaging Materials and Technology, July 13-15, 2022, Zhuzhou, Hunan
4. **Qiang Li**, Youming Xu, Hongbo Yu, Yasumitsu Uraki. Artificial wood cell wall as a valid tool to investigate wood formation and its functional application. **The 8th IAWA China Group Annual Meeting Agenda**, Nov. 13 – 14, **2021**, Chengdu, Sichuan Province, China.
5. **Qiang Li**. Lignocellulosic biomass comes of age: pathways for a sustainable future. **International Symposium on Cellulose and Renewable Materials**, Oct. 17 – 18, **2021**, Wuhan, Hubei Province, China.

### Panel talk:

6. **Qiang Li**, Chao Liu, Pengcheng Luan, Hongli Zhu. Antifouling Porous Lignocellulosic Biomass with Internal Microchannels as Solar Absorbers and Water Pumpers for Thermal Desalination. **2020 Material Research Society (MRS) Spring/Fall Meeting & Exhibition**, Boston, MA.

(Oral)

7. **Qiang Li**, Cheng Hu, Mengjie Li, Joshua S. Yuan. Trimming Lignin Chemistry for Advanced Manufacturing of Renewable Carbon Fibers. **2019 AIChE Annual Conference**, Nov. 10 – 15, **2019**, Orlando, FL.
8. **Qiang Li**, Cheng Hu, Mengjie Li, Joshua S. Yuan. Developing Fractionation Technologies for Making Quality Renewable Carbon Fibers from Plant. **2019 Material Research Society (MRS) Fall Meeting & Exhibition**, Dec. 1-6, **2019**, Boston, MA.
9. **Qiang Li**, Cheng Hu, Mengjie Li, Joshua S. Yuan. Multi-stream Integrated Bioproducts Enabled by Lignin Waste Fractionation. **4<sup>th</sup> Texas A&M Conference on Energy**, Nov. 23-25, **2019**, College Station, TX.
10. **Qiang Li**, Zhi-Hua Liu, Naijia Hao, Bin Yang, Arthur J. Ragauskas, Joshua S. Yuan. Tailoring Lignin Chemistry to Enable Value-added Products for Sustainable and Viable Biorefinery. **41<sup>th</sup> Symposium on Biotechnology for Fuels and Chemicals**, Apr. 28-May 1, **2019**, Seattle, WA.
11. **Qiang Li**, Cheng Hu, Hao-Sheng Lin, Mengjie Li, Joshua S. Yuan. Lignin Chemistry Guided Advanced Manufacturing of Multifunctional Lignin-based Carbon Fiber. **3<sup>rd</sup> Texas A&M Conference on Energy**, November 25-27, **2018**, College Station, TX, USA. (Oral, **Session Chair**)
12. **Qiang Li**, Mengjie Li, Joshua S. Yuan. Waste Fractionation Enables Fungible Products from Biofuel Production. **3<sup>rd</sup> TAMU Annual Postdoctoral Research Symposium**. September 19, **2018**, College Station, TX, USA. (Oral)
13. **Qiang Li**, Shangxian Xie, Zhihua Liu, Yunqiao Pu, Bin Yang, Arthur Ragauskas, Joshua S. Yuan. Multi-stream Integrated BioRefinery (MIBR) for Sustainable and Cost-effective Biofuels and Bioproducts. **40<sup>th</sup> Symposium on Biotechnology for Fuels and Chemicals**, April 29-May 2, **2018**, Clearwater Beach, FL, USA. (Oral)
14. **Qiang Li**, Shangxian Xie, Wilson K. Serem, Joshua S. Yuan. Quality and Biorenewable Carbon Fiber from Fractionated Lignin. **2017 Material Research Society (MRS) Fall Meeting & Exhibition**, November 26-December 01, **2017**, Boston, MA, USA. (Oral)
15. **Qiang Li**, Shangxian Xie, Wilson K. Serem, Joshua S. Yuan. Carbon Fiber from Fractionated Lignin Enables Multistream Integrated Biorefinery. **2<sup>nd</sup> Texas A&M Conference on Energy**, November 25-27, **2017**, College Station, TX, USA. (Oral)
16. **Qiang Li**, Joshua S. Yuan. Quality Multiple Bioproducts Enabled by Lignin Fractionation: the Path for Multi-stream Integrated Biorefinery. **2<sup>nd</sup> TAMU Annual Postdoctoral Research Symposium**. September 20, **2017**, College Station, TX, USA. (Poster)
17. **Qiang Li**, Shangxian Xie, Wilson K. Serem, Mandar T. Naik, Joshua S. Yuan. Biological Fractionation and Modification of Lignin for Quality Carbon Fiber. **39<sup>th</sup> Symposium on Biotechnology for Fuels and Chemicals**, May 1-4, **2017**, San Francisco, CA, USA. (Oral)
18. Shangxian Xie, **Qiang Li**, Joshua Yuan. Multistream Integrated Biorefinery (MIBR) for Carbon-, Road-, and Bio-Materials. **2017 AIChE Annual Conference**, October 29 - November 3, 2017 Minneapolis, MN, USA. (Oral)
19. **Qiang Li**, Mayu Ogawa, Keiichi Koda, Yasumitsu Uraki, Arata Yoshinaga, Keiji Takabe. Clarification of Xylan Function in Lignification. **60<sup>th</sup> Lignin Symposium**. November 05-06, **2015**, Tsukuba, Japan. (Oral)
20. Yasumitsu Uraki, **Qiang Li**, Teuku B. Bardant, Keiichi Koda. Honeycomb-patterned cellulose films as a promising tool to investigate deformation of wood cross section and wood cell wall formation. **249<sup>th</sup> ACS National Meeting & Exposition**, March 22-26, **2015**, Denver, CO, USA. (Oral)



21. **Qiang Li**, Yuka Tasaki, Arata Yoshinaga, Keiji Takabe, Keiichi Koda, Yasumitsu Uraki. Xylan as a scaffold for DHP deposition on cellulose. **International Symposium on Wood Science & Technology 2015**, March 15-17, **2015**, Tokyo, Japan. (*Oral*)
22. **Qiang Li**, Yuka Tasaki, Keiichi Koda, Yasumitsu Uraki. DHP formation in the matrix of hemicellulose-deposited honeycomb patterned cellulose. **The XXVIIth International Conference on Polyphenols**, September 2-6, **2014**, Nagoya, Japan. (*Poster*)
23. **Qiang Li**, Yuka Tasaki, Keiichi Koda, Yasumitsu Uraki. Dehydrogenative polymerization of coniferyl alcohol on the xylan-deposited honeycomb-patterned cellulose films. **13<sup>th</sup> European Workshop on Lignocellulosics and Pulp**, June 24-27, **2014**, Seville, Spain. (*Poster*)

## H. Teaching and Mentorship Experience

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### 1. Teaching:

- 1) Waste Pollutant Controlling Technology and Instrument, Huazhong Agricultural University, 2022
- 2) *Biotechnology for Biofuels and Bioproducts*, Texas A&M University, guest lecturer, 2016, 2018, 2019

### 3) Mentorship:

#### **Huazhong Agricultural University University (total 4)**

- 1) Ph.D. student (1)
- 2) Graduate (3)

#### **Texas A&M University (total 4)**

- 1) Undergraduate (2):  
Hao-Sheng Lin, **Student of the Year 2017, TAMU**; current: master student at North Carolina State University  
Emily Stewart, undergraduate in Dr. Joshua Yuan lab, TAMU
- 2) Graduate (1): Cheng Hu, current Ph.D. student in Dr. Joshua Yuan lab, TAMU
- 3) Postdoc (1): Dr. Mengjie Li, Postdoc in Dr. Joshua Yuan lab, TAMU

#### **Northeastern University (total 5)**

- 1) Undergraduate (1):  
Anthony Aiyedun, Honors Class of '24, undergraduate in Dr. Hongli Zhu lab, NEU
- 2) Graduate (4):  
Ying Wang, Ph.D. student in Dr. Hongli Zhu lab, NEU  
Chao Liu, visiting Ph.D. student in Dr. Hongli Zhu lab, NEU  
Pengcheng Luan, visiting Ph.D. student in Dr. Hongli Zhu lab, NEU  
Alexander Anderson, graduate in Dr. Hongli Zhu lab, NEU

## I. Professional Activities

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### 1. Editorial board

- 1) *Biomed. Res. Int.*;
- 2) *J. Energy, Environ. Chem. Eng.*

### 2. Guest editor

- 1) *Frontliner in Energy Research.*;
- 2) *Clean Technologies.*

### 3. Ad hoc manuscript reviews

- 1) *ACS Sustain. Chem. Eng.* (3);
  - 2) *Ind. Crops Prod.* (4);
  - 3) *Sci. Rep.* (8);
  - 4) *Biomass Convers. Biorefinery* (2);
  - 5) *J. Biobased Mater. Bioenergy* (1);
  - 6) *BioResources* (4);
  - 7) *Bioproc. Biosyst. Eng.* (1);
  - 8) *J. Renew. Mater.* (3);
  - 9) *Biotechnol. Appl. Biochem.* (1);
4. **Invited peer reviewer for conference**
    - The 8th Global Conference on Materials Science and Engineering (CMSE 2019) (1)
    - The 7th Global Conference on Polymer and Composite Materials (PCM 2020) (6)
  5. **Session chair**
    - 4<sup>th</sup> Texas A&M Conference on Energy
    - 3<sup>rd</sup> Texas A&M Conference on Energy
  6. **Affiliations**
    - AIChE, USA, 2019-now
    - Materials Research Society (MRS), USA, 2017-now
    - Society for Industrial Microbiology and Biotechnology (SIMB), USA, 2017-now
    - National Postdoctoral Association (NPA), USA, 2019-now
    - The Japan Wood Research Society, 2015-2016
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