

Yonghui Li, Ph.D.

Assistant Professor

Department of Grain Science and Industry
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1. EDUCATION

Ph.D. Grain Science & Industry, Kansas State University, Manhattan, KS, USA, May 2011

M.S. Biosystems Engineering, Zhejiang University, Hangzhou, China, June 2007

B.S. Chemical Engineering, Zhejiang University, Hangzhou, China, June 2005

2. RESEARCH INTERESTS

Cereal biopolymers chemistry and technology; Cereal proteins modification, structure, and functionality; Bioactive cereal proteins and grain lipids; Cereal components interactions and mechanisms; Food nanotechnologies; Functional cereal foods.

3. TEACHING

Lab instructor, GRSC830–Physical Studies of Cereal Polymers (spring of 2010, 2012, 2014)

4. ACADEMIC APPOINTMENTS

2016-present Assistant Professor, Grain Science & Industry, Kansas State University

2013-2015 Research Scientist, Grain Science & Industry, Kansas State University

2011-2012 Postdoc Researcher, Grain Science & Industry, Kansas State University

2007-2011 Graduate Research Assistant, Grain Science & Industry, Kansas State University

2005-2007 Graduate Research Assistant, Biosystems Engineering, Zhejiang University

2005-2005 Undergraduate Researcher, Chemical Engineering, Zhejiang University

5. HONORS, AWARDS, PROFESSIONAL SERVICES

- Tape Summit 2014 Travel Award by Pressure Sensitive Tape Council, 2014
- 2010 Distillers Grains Scholarship by Distillers Grains Technology Council, 2010
- Anheuser-Busch Co. Fellowship by Grain Science and Industry, 2009
- Bioenvironmental Polymer Society Student Research Award, 2008
- Harold Reese Memorial Scholarship by Grain Elevator and Processing Society, 2008
- Lola Lee Jackson Animal Welfare Foundation Fund by Grain Science, 2008
- Graduate Student Council (Kansas State University) Travel Grant Award, 2008 - 2011
- Excellent Graduate of Zhejiang University, granted to top 25% graduates, 2005
- National Educational Committee Guanghua Scholarship, Zhejiang University, 2005
- Excellent Student Leader, Zhejiang University, 2003 - 2004
- Excellent Academic Student Scholarship, Zhejiang University, 2002 – 2004

- **Ad Hoc Reviewer**, *Chemical Society Reviews, Green Chemistry, RSC Advances, Biomacromolecules, Carbohydrate Polymers, Journal of Applied Polymer Science, Polymer Chemistry, Polymer Engineering and Science, IEEE Transactions on Nanotechnology, Canadian Journal of Plant Science, Transactions of the ASABE, Journal of Polymers and the Environment, Bioresources, Polymers, Macromolecular Materials & Engineering, Industrial Crops and Products, Advances in and Materials Science and Engineering, etc.*
- **Professional Memberships**, American Chemical Society (ACS, since 2010), BioEnvironmental Polymer Society (BEPS, since 2010), American Oil Chemists' Society (AOCS, since 2007), American Society of Agricultural and Biological Engineers (ASABE, since 2013).

6. GRANT PROPOSALS

1. Co-investigator in a proposal on “Affordable biobased waxes for hot melt adhesive applications” submitted to USDA/NIFA (2015, \$489,078, not funded)
2. Co-investigator in a proposal on “High performance biobased wax from soybean oils for hot melt adhesives” submitted to Kansas Soybean Commission (2014, \$65,635, not funded)
3. Co-investigator in a proposal on “High-performance functionalized intermediate chemicals and resins derived from plant oils for hot melt adhesives” submitted to USDA/CAM (2014, \$715,849, not funded)
4. Co-investigator of a proposal on “High performance biobased wax from plant oils for hot melt adhesives” submitted to a company (2013, \$254,433, not funded)
5. Co-investigator a proposal on “Modulating photochemical properties toward high-performance PLA bionanocomposites with tailored TiO₂ nanoparticle fillers” submitted to NSF DMR-POLYMERS (2012, \$509,640, not funded)
6. Co-investigator in a proposal on “Modulating interfacial interactions of TiO₂ nanoparticles and lactic acid monomers for high performance PLA nanocomposites with controlled photoactivity” submitted to NSF DMR-POLYMERS (2011, \$365,000, not funded)
7. Co-investigator in a proposal on “DDGS compatibilizing with biopolymer for high-performance biocomposites” submitted to Kansas Corn Commission (2011, \$64,000, not funded)
8. Co-investigator in a proposal on “Photodegradable nanocomposites: TiO₂ nanoparticles reinforced biopolymer PLA” submitted to NSF DMR-POLYMERS (2010, \$360,000, not funded).

7. COMPLETE PUBLICATION LIST

Peer-reviewed (25)

1. Gaiind P. Pandey, Steven A. Klankowski, **Yonghui Li**, Xiuzhi Susan Sun, Judy Wu, Ronald A. Rojas, and Jun Li. 2015. Effective Infiltration of Gel Polymer Electrolyte into Silicon-Coated Vertically Aligned Carbon Nanofibers as Anodes for Solid-State Lithium-ion Batteries. *ACS Applied Materials & Interfaces*, 7, 20909-

20918.

2. **Yonghui Li**, Xiuzhi Susan Sun. 2015. Synthesis and characterization of acrylic polyols and polymers from soybean oils for pressure-sensitive adhesives. *RSC Advances*, 5, 44009-44017.
3. **Yonghui Li**, Donghai Wang, Xiuzhi Susan Sun. 2015. Copolymers from epoxidized soybean oil and lactic acid oligomers for pressure-sensitive adhesives. *RSC Advances*, 5, 27256-27265.
4. **Yonghui Li**, Xiuzhi Susan Sun. 2015. Camelina oil derivatives and adhesion properties. *Industrial Crops and Products*, 73, 73-80.
5. **Yonghui Li**, Xiuzhi Susan Sun. 2015. Polyols from epoxidized soybean oil and alpha hydroxy acids and adhesion properties from UV polymerization. *International Journal of Adhesion and Adhesives*, 63, 1-8.
6. **Yonghui Li**, Donghai Wang, Xiuzhi Susan Sun. 2015. Oxirane cleavage kinetics of epoxidized soybean oil by water and UV - polymerized resin adhesion properties. *J Am Oil Chem Soc*, 92 (1), 121-131.
7. Namhoon Kim, **Yonghui Li**, Xiuzhi Susan Sun. 2015. Epoxidation of Camelina sativa oil and peel adhesion properties. *Industrial Crops and Products*, 64, 1-8.
8. **Yonghui Li**, Xiuzhi Susan Sun. 2014. Di-hydroxylated soybean oil polyols with varied hydroxyl values and their influence on UV-curable pressure-sensitive adhesives. *J Am Oil Chem Soc*, 91 (8), 1425-1432.
9. Jonggeun Sung, **Yonghui Li**, Xiuzhi Susan Sun. 2014. Plasticization effects of dihydroxyl soybean oil improve flexibilities of epoxy-based films for coating applications. *Journal of Applied Polymer Science*, 132, 41773.
10. **Yonghui Li**, Caihong Chen, Jun Li, Xiuzhi Susan Sun. 2013. Photoactivity of Poly(lactic acid) nanocomposites modulated by TiO₂ nanofillers. *J. Appl. Polym. Sci.* doi: 10.1002/app.40241.
11. Zhigang Xiao, **Yonghui Li**, Xiaorong Wu, Guangyan Qi, Ningbo Li, Ke Zhang, Donghai Wang, and Xiuzhi Susan Sun. 2013. Utilization of sorghum lignin to improve adhesion strength of soy protein adhesives on wood veneer. *Industrial Crops and Products*, 50, 501-509.
12. B. Kollbe Ahn, Jonggeun Sung, **Yonghui Li**, Myles Ikenberry, Nihar Mohanty, Phong Nguyen, Keith Hohn, Vikas Berry, and Xiuzhi Susan Sun. 2012. Synthesis and characterization of amphiphilic reduced graphene oxide with epoxidized methyl oleate. *Advanced Materials*, 24, 2123-2129.
13. **Yonghui Li**, Caihong Chen, Jun Li, and Xiuzhi Susan Sun. 2012. Isothermal crystallization and melting behaviors of bionanocomposites from poly(lactic Acid) and TiO₂ nanowires. *Journal of Applied Polymer Science*, 124, 2968-2977.
14. **Yonghui Li**, and Xiuzhi Susan Sun. 2011. Nanocomposites of PLA and surface grafted MgO: preparation and characterization. *Journal of Biobased Materials and Bioenergy*, 5, 452-459.
15. **Yonghui Li**, Caihong Chen, Jun Li, and Xiuzhi Susan Sun. 2011. Synthesis and characterization of bionanocomposites of poly(lactic acid) and TiO₂ nanowires by in

- situ polymerization. *Polymer*, 52, 2367-2375.
16. **Yonghui Li**, and Xiuzhi Susan Sun. 2011. Mechanical and thermal properties of biocomposites from poly(lactic acid) and DDGS. *Journal of Applied Polymer Science*, 121, 589-597.
 17. **Yonghui Li**, and Xiuzhi Susan Sun. 2010. Preparation and characterization of polymer-inorganic nanocomposites by in situ melt polycondensation of L-lactic acid and surface-hydroxylated MgO. *Biomacromolecules*, 11, 1847-1855.
 18. **Yonghui Li**, Karthik Venkateshan, and Xiuzhi Susan Sun. 2010. Mechanical and thermal properties, morphology and relaxation characteristics of poly(lactic acid) and soy flour/wood flour blends. *Polymer International*.59, 1099-1109.
 19. Xin Li, **Yonghui Li**, Zhikai Zhong, Donghai Wang, Jo A. Ratto, Kuichuan Sheng, and Xiuzhi Susan Sun. 2009. Mechanical and water soaking properties of medium density fiberboard with wood fiber and soybean protein adhesive. *Bioresource Technology*, 100: 3556-3562.
 20. Kun Fang, Gulai Lv, Kuichuan Sheng, Xiangqun Qian, **Yonghui Li**. 2008. Properties of bamboo particleboard based on modified soy protein adhesive. *Transactions of the Chinese Society of Agricultural Engineering*. 24 (11): 308-312.
 21. Kun Fang, Kuichuan Sheng, Lei Xi, Tian Lan, **Yonghui Li**. 2008. Properties of Particleboard Based on Modified Soybean Protein Adhesive. *Cereals and Oils Processing*, 11, 74-77.
 22. Yiqian Hong, Kuichuan Sheng, Tian Lan, **Yonghui Li**. 2008. Research and Development of Biodegradable Polymer Materials. *Cereals and Oils Processing*, 5, 127-129.
 23. **Yonghui Li**, Kui Fang, Kuichuan Sheng. 2007. Properties of SDS-modified Soy Protein Adhesive. *Cereals and Oils Processing*, 8, 90-93.
 24. Yiqian Hong, **Yonghui Li**, Kuichuan Sheng. 2007. Review on the Environmentally Friendly Adhesives Based on Modified Soybean Proteins. *Cereals and Oils Processing*, 3, 83-85.
 25. Huizhi Song, Jun Wang, **Yonghui Li**. 2006. Studies on vibration characteristics of a pear using finite element method. *Journal of Zhejiang University Science B*. 7(6): 491-496.

Manuscripts under review (5)

1. Cong Li, Yonghui Li, Xiuzhi Susan Sun. 10-undecenoic acid derived bio-based epoxies: a valuable building block bearing ester-bridged cycloaliphatic rings and hydroxyl groups, for high performance UV-curable resins. *Green Chemistry*, under review.
2. **Yonghui Li**, Donghai Wang, Xiuzhi Susan Sun. Epoxidized and acrylated camelina oil for UV-curable wood coatings. Under internal review. To be submitted to *Progress in Organic Coatings*.
3. **Yonghui Li**, Xiuzhi Susan Sun. Synthesis and properties of soybean oil derived epoxy acrylates and dihydroxyl acrylic polyols with modulated functionalities. Under internal review. To be submitted to *ACS Sustainable Chemistry & Engineering*.

4. **Yonghui Li**, Cong Li, Xiuzhi Susan Sun. Fundamental Insights into the Curing Mechanisms of Epoxidized Fatty Acid Methyl Esters and Triglycerides. Under internal review. To be submitted to ACS Sustainable Chemistry & Engineering.
5. **Yonghui Li**, Shih-Hsiung Chou, Wenting Qian, Shing I Chang, Xiuzhi Susan Sun. Optimization of soybean oil based pressure-sensitive adhesives using a full factorial design. Under internal review. To be submitted to Journal of the American Oil Chemists' Society.

Conference presentations (31)

1. **Yonghui Li**, Xiuzhi Susan Sun. Pressure-sensitive adhesives and coatings from camelina oils. 19th Green Chemistry & Engineering Conference, July 14-16, 2015, oral presentation, N. Bethesda, MD.
2. **Yonghui Li**, Donghai Wang, Xiuzhi Susan Sun. Epoxidized and acrylated camelina oils for UV curable wood coatings. 3rd USDA NIFA BRDI Camelina Project Meeting, August 19-20, 2015, poster presentation, Manhattan, KS.
3. Jonggeun Sung, **Yonghui Li**, Xiuzhi Susan Sun. Thermal properties of dihydroxyl fatty acid derivatives for bio-based wax applications. 3rd USDA NIFA BRDI Camelina Project Meeting, August 19-20, 2015, poster presentation, Manhattan, KS.
4. **Yonghui Li**, Xiuzhi Susan Sun. Pressure-sensitive adhesives from vegetable oils. Pressure-Sensitive Tape Council Tape Summit 2014, April 28-May 2, 2014, poster presentation, Nashville, TN.
5. **Yonghui Li**, Xiuzhi Susan Sun. Adhesives and films from camelina oil derivatives. 2nd USDA NIFA BRDI Camelina Project Meeting, July 22, 2014, poster presentation, Manhattan, KS.
6. **Yonghui Li**, Xiuzhi Susan Sun. 2014. Synthesis of soybean oil polyols and pressure-sensitive adhesive applications. 2014 Bio-environmental Polymer Society Annual Meeting. October 14-17. Oral presentation. Kansas City, MO.
7. Namhoon Kim, **Yonghui Li**, Xiuzhi Susan Sun. Epoxidation and di-hydroxylation of camelina sativa oil. 2st USDA NIFA BRDI Camelina Project Meeting, July 22, 2014, poster presentation, Manhattan, KS.
8. Namhoon Kim, **Yonghui Li**, Xiuzhi Susan Sun. Epoxidation and di-hydroxylation of camelina sativa oil. Bio-environmental Polymer Society Annual Meeting. 2014 October 14-17. Poster presentation. Kansas City, MO.
9. Jonggeun Sung, **Yonghui Li**, Xiuzhi Susan Sun. 2014. Soybean oil based resin for transparent flexible coating applications. Bio-environmental Polymer Society Annual Meeting. 2014 October 14-17. Oral presentation. Kansas City, MO.
10. Jonggeun Sung, **Yonghui Li**, Xiuzhi Susan Sun. 2014. Soybean oil based resin for transparent flexible coating applications. 2nd USDA NIFA BRDI Camelina Project Annual Meeting, July, 22, 2014, poster presentation, Manhattan, KS.
11. **Yonghui Li**, Xiuzhi Susan Sun. Environmentally Benign Pressure-Sensitive Adhesives from Soybean Oils. 2013 ASABE International Meeting, July 21-24, 2013, oral presentation (Paper No. 131587024) Kansas City, MO.

12. **Yonghui Li**, Kollbe Ahn, Xiuzhi Susan Sun. Pressure-Sensitive Adhesives from Soybean Oils. 2013 Adhesion Society Annual Meeting, March 3-6, 2013, oral presentation, Daytona Beach, FL, USA.
13. Xiuzhi Susan Sun, Kollbe Ahn, **Yonghui Li**, Jonggeun Suang, 2013, Biobased resin from plant oils for transparent tapes and coatings, 21st Bioenvironmental Polymers Society Annual meeting, Sep 18-20, 2013, University of Warwick, UK
14. Jonggeun Sung, **Yonghui Li**, Xiuzhi Susan Sun. Soybean Oil Based Resin for Transparent Flexible Coatings in Food Packaging. 2013 ASABE International Meeting, July 21-24, 2013, oral presentation (Paper No. 131620877) Kansas City, MO.
15. Namhoon Kim, **Yonghui Li**, Xiuzhi Susan Sun. Epoxidation of Camelina Oil for Biopolymer Industry Applications. 2013 ASABE International Meeting, July 21-24, 2013, oral presentation (Paper No. 131620826) Kansas City, MO.
16. Namhoon Kim, **Yonghui Li**, Xiuzhi Susan Sun. Epoxidation of Camelina Oil. 1st USDA NIFA BRDI Camelina Project Meeting, July 8-9, 2013, poster presentation, Lewistown, Montana.
17. Jonggeun Sung, **Yonghui Li**, Xiuzhi Susan Sun. Soybean Oil Based Resin for Transparent Flexible Coatings in Food Packaging. 1st USDA NIFA BRDI Camelina Project Meeting, July 8-9, 2013, poster presentation, Lewistown, Montana.
18. **Yonghui Li**, and Xiuzhi Susan Sun. UV-cured Pressure-Sensitive Adhesive Based on Soybean Oils. 2012 ACS Midwest Regional Meeting (MWRM 2012), October 24 – 27, 2012, oral presentation, Omaha, NE, USA.
19. **Yonghui Li**, and Xiuzhi Susan Sun. Thermal and mechanical properties of soybean oils plasticized poly(lactic acid). 20th Anniversary Celebration of The BioEnvironmental Polymer Society, Sept. 18-21, 2012, poster presentation, P-5, Denton, TX, USA.
20. **Yonghui Li**, and Xiuzhi Susan Sun. Controlling photodegradability/photostability of poly(lactic acid) nanocomposites using different TiO₂ nanofillers. 20th Anniversary Celebration of The BioEnvironmental Polymer Society, Sept. 18-21, 2012, poster presentation, P-4, Denton, TX, USA.
21. **Yonghui Li**, and Xiuzhi Susan Sun. Synthesis and properties of poly(lactic acid) bionanocomposites. 20th Anniversary Celebration of The BioEnvironmental Polymer Society, Sept. 18-21, 2012, oral presentation, O-43, Denton, TX, USA.
22. **Yonghui Li**, and Xiuzhi Susan Sun. DDGS value addition for biodegradable composites with poly(lactic acid). S1041: The Science and Engineering for a Biobased Industry and Economy, Aug. 1-2, 2011, poster presentation, Stillwater, OK, USA.
23. **Yonghui Li**, and Xiuzhi Susan Sun. Bio-nanocomposites derived from renewable materials. The Consortium for Plant Biotechnology Research (CPBR) 2011 Annual Symposium, Mar. 1-2, 2011, Oral presentation, Washington, D. C.
24. **Yonghui Li**, and Xiuzhi Susan Sun. Preparation and characterization of polymer-inorganic nanocomposites by in situ melt polycondensation of L-lactic acid and surface-hydroxylated MgO. 18th Annual Meeting of the BioEnvironmental Polymer Society, Oct. 13-16, 2010, Poster presentation, Toronto, Canada.

25. **Yonghui Li**, and Xiuzhi Susan Sun. Bionanocomposites from poly(lactic acid) and hydroxylated magnesium oxide. 45th ACS Midwest Regional Meeting, Oct. 27-30, 2010, Oral presentation, Wichita, KS, USA.
26. **Yonghui Li**, and Xiuzhi Susan Sun. DDGS value addition for biodegradable composites with poly(lactic acid). 14th Annual Distillers Grains Symposium, May 12-13, 2010, Poster presentation, Indianapolis, Indiana, USA. (invited)
27. **Yonghui Li**, and Xiuzhi Susan Sun. Poly(L-lactic acid)/MgO nanocomposites via in situ melt polycondensation: preparation and characterization. International Symposium on Polymer and the Environment Emerging Technology and Science, June 16-19, 2009, Oral presentation, Chicago, Illinois, USA.
28. **Yonghui Li**, and Xiuzhi Susan Sun. Properties of biodegradable poly(lactic acid)-soy flour/wood flour composites. International Symposium on Polymer and the Environment Emerging Technology and Science, October 7-10, 2008, Oral presentation, Nashua, New Hampshire, USA.
29. Jo Ann Ratto, Xin Li, **Yonghui Li**, Donghai Wang, Susan Sun, Richard Farrell, Jason Niedzwiecki, Christopher Thellen, Danielle Froio, Jeanne Lucciarini. Lightweight and compostable fiberboard for the Army. The Partners in Environmental Technology Technical Symposium & Workshop: Meeting DOE's Environmental Challenges. December 4-6, 2007, Poster presentation, Washington D.C., USA.
30. **Yonghui Li**, Kun Fang, Kuichuan Sheng, and Xiangqun Qian. 2007. Properties of particleboard based on modified soybean protein adhesives. Chinese Society of Agricultural Engineering, August 14-17, 2007, Oral presentation, Daqing, Heilongjiang, China.
31. Xin Li, **Yonghui Li**, Donghai Wang, and Xiuzhi Susan Sun. Biodegradable medium density fiberboard, Poster presentation, 2006 SERDP & ESTCP Partners in Environmental Technology Technical Symposium & Workshop, Nov28 2006, Washington, D. C., USA.

Patents (3)

1. Kuichuan Sheng, Gulai Lv, Kun Fang, **Yonghui Li**. Method for using modified soy protein tackiness agent to prepare bamboo fiberboard. China Patent No. ZL 2007 1 0164450.4, 11.11.2009.
2. Kuichuan Sheng, Xiangqun Qian, Shunshui Ma, Liang Chen, **Yonghui Li**. Household high efficient biomass gasification stove. China Patent No. ZL 200620105655.6, 08.22.2007.
3. Kuichuan Sheng, Xiangqun Qian, Shunshui Ma, Liang Chen, **Yonghui Li**. Household direct burning type gasifying furnace. China Patent No. ZL 200620105653.7, 08.01.2007.

(last updated 02/10/2016)