Curriculum Vitae

Yishuai Huang, Ph.D.

Post-Doctoral Research Associate

Department of Apparel, Merchandising, Design and Textiles

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Education Background

- **South China Agricultural University** **Sep 2020 - Dec 2023**
  Agro-Bio-Environment and Energy Engineering - Doctor
  Dissertation: "Waterborne itaconate-based unsaturated polyester modified wood materials and its mechanism"
- **South China Agricultural University** **Sep 2017 - Jun 2020**
  Wood Science and Technology - Master
  Thesis: "Preparation and Properties of Biobased Flame-Retardant Coating In Wood Surface"
- **South China Agricultural University** **Sep 2013 - Jun 2017**
  Wood Science and Engineering - Bachelor
  Undergraduate thesis: "Study of the properties of UV-cured intumescent flame-retardant coatings on wood surface"

Professional Experience

- **Washington State University** **Aug 2024 - Present**
  Post-Doctoral Research Associate
  Department of Apparel, Merchandising, Design and Textiles (AMDT)
  Composite Materials & Engineering Center (CMEC)
- **Zhongkai University of Agriculture and Engineering** **Feb 2024 - May 2024**
  Adjunct Instructor
  Hexiangning College of Art and Design

Research Interests

Bio-based flame-retardant coatings;
Wood functionalization;
Cellulose-based functional materials;
Lignocellulosic composites.

Publications

[1] **Yishuai Huang**, Wangcheng Liu, Hang Liu. Multifunctional cellulose/liquid metal conductive fibers with integrated mechanical, thermal, and conductive properties for smart wearables. Carbohydrate Polymers, 2026, 378, 124959.
[2] Guangwu Zhuo, **Yishuai Huang,** Yinliang Zhang, Jingshu Huang, Jinmei Xu, Chuigen Guo. Development of low viscosity itaconic acid-based epoxy resins for cationic-radical hybrid UV-curable coatings with superior properties. 2025, 214, 106336.
[3] Meng Qin, **Yishuai Huang**, Shuqi Cao, Yinliang Zhang, Yulan Lu, Liufang He, Huichuan Jiang, Jianing Li, Chuigen Guo. Extraction and characterization of rubberwood starch for accurate structural and physicochemical properties analysis. Industrial Crops and Products, 2025, 223, 120197.
[4] Yinliang Zhang, Guangwu Zhuo, **Yishuai Huang**, Meng Qin, Mingli Liu, Liping Li, Chuigen Guo. Synthesis of bio-based epoxy resins derived from itaconic acid and application in rubber wood surface coating. Industrial Crops and Products, 2024, 222, 119529.
[5] Mingli Li, **Yishuai Huang**, Lemin Yang, Liping Li, Jinmei Xu. A novel flame retardant epoxy thermoset based on renewable honokiol and furfuryl alcohol. Construction and Building Materials, 2024, 432, 136707.
[6] **Yishuai Huang**, Zehao Zheng, Chuanfu Chen, Chuigen Guo, Xianju Wang, Qiaofang Zhou, Dengyun Tu. Effective strategy for fabricating surface impregnated and unilaterally densified wood with furfuryl alcohol/flame retardants for enhanced mechanical performance and flame retardancy. European Journal of Wood and Wood Products, 2024, 82, 731-745.
[7] Qingjie Liu, Haolong Luo, Zhenzhong Gao, **Yishuai Huang**, Jiaming Liang, Haiyang Zhou, Jin Sun. Preparation of waterborne intumescent flame-retardant coatings using adenosine-based phosphonates for wood surfaces. Progress in Organic Coatings, 2024, 187, 108601.
[8] Mengliang Hu, Yuanpeng Qian, Shuhui Yu, Qingyao Yang, Zhinan Wang, **Yishuai Huang**, Liping Li. Amorphous MoS_2 Decorated Ni_3S_2 with a Core-shell Structure of Urchin-Like on Nickel-Foam Efficient Hydrogen Evolution in Acidic and Alkaline Media. Small, 2023, 2305948.
[9] **Yishuai Huang**, Qiaofang Zhou, Liping Li, Qingwen Wang, Chuigen Guo. Construction of waterborne flame-retardant itaconate-based unsaturated polyesters and application for UV-curable hybrid coatings on wood. Progress in Organic Coatings, 2023, 183, 107826.
[10] Huishi Chen, Borong Sun, Mingli Li, **Yishuai Huang**, Jinmei Xu, Chuigen Guo. A facile way to fabricate renewable P/N/S-containing ferulic acid-derived epoxy thermosets with excellent flame retardancy. Industrial Crops and Products, 2023, 201, 116917.
[11] Xuepeng Liu, Mingli Li, **Yishuai Huang**, Mengliang Hu, Liping Li. Facile preparation of magnolol-based epoxy resin with intrinsic flame retardancy, high rigidity and hydrophobicity. Industrial Crops and Products, 2023, 192, 116124.

[12] **Yishuai Huang**, Tongtong Ma, Liping Li, Qingwen Wang, Chuigen Guo. Facile synthesis and construction of renewable, waterborne and flame-retardant UV-curable coatings in wood surface, Progress in Organic Coatings. 2022, 172, 107104.
[13] Zehao Zheng, Chuanfu Chen, **Yishuai Huang**, Rongxian Ou, Chuanshuang Hu, Xianju Wang, Qiaofang Zhou, Dengyun Tu. Developing a unilaterally surface-densified wood composite with excellent performance through surface impregnation of furfuryl alcohol resin. ACS Applied Polymer Materials, 2022, 4(8), 5308-5318.
[14] Jian Zhong, **Yishuai Huang**, Yongtong Chen, Liping Li, Chuigen Guo. Synthesis of eugenol-modified epoxy resin and application on wood flame retardant coating. Industrial Crops and Products, 2022, 183, 114979.
[15] Mingli Li, Xiaohan Hao, Mengliang Hu, **Yishuai Huang**, Chen Tang, Youyi Chen, Liping Li. Synthesis of vanillin-based flame retardant epoxy coating on wood surface. Progress in Organic Coatings, 2022, 172, 107161.
[16] Mingli Li, Xiaohan Hao, Mengliang Hu, **Yishuai Huang**, Ying Qiu, Liping Li. Synthesis of bio-based flame-retardant epoxy co-curing agent and application in wood surface coating. Progress in Organic Coatings, 2022, 167, 106848.
[17] Xiaohan Hao, Mingli Li, **Yishuai Huang**, Yihua Sun, Kunxiang Zhang, Chuigen Guo. High-strength, dimensionally stable, and flame-retardant fast-growing poplar prepared by ammonium polyphosphate-waterborne epoxy impregnation. ACS Applied Polymer Materials, 2022, 4(2), 1305-1313.
[18] **Yishuai Huang**, Tongtong Ma, Qingwen Wang, Chuigen Guo. Synthesis of biobased flame-retardant carboxylic acid curing agent and application in wood surface coating. ACS Sustainable Chemistry & Engineering, 2019, 7(17), 14727-14738.

Patents

Chuigen Guo, **Yishuai Huang**, Liping Li, Zhinan Wang. A bio-based flame-retardant unsaturated polyester for wood enhancement modification and its preparation. Application number: CN 202211368353.8, application date: 2022-11-03.

Honors and Awards

Outstanding Doctoral Dissertation (2024)
Outstanding Master’s Graduate (2020)
Outstanding Master’s Thesis (2020)
Outstanding Undergraduate Thesis (2017)