Yangweizhe Zheng

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EDUCATION

Northeast Forestry University, Harbin, China **2023.9 - 2026.6**

Master of Fine Arts, Design. Average Score: 90.43/100 (Rank:2/14)

- **Core courses:** Ergonomic research (92), Study on Wood Culture (99), Design semantics (92.4), Material Design Strategy (92), Structural theory and practice research (89), Design research method(89), Furniture and interior professional foreign language (96).

Nanjing University of the Arts, Nanjing, China **2018.9 - 2022.6**

Bachelor of Fine Arts, Digital Media Arts, GPA: 3.94/4.0 (Rank:2/54)

- **Core courses:** Material and Medium Experiments (92), Anime Model Production (96), Audience Psychology in The Film and Television Industry (96), Introduction to Art Studies (97), Experimental Short Film Creation (90).

RESEARCH INTEREST

My research centers on digital fabrication in HCI, with a focus on material-driven tangible interactive systems. I am motivated by the challenge of creating sustainable and ubiquitous interactions through empirical validation of novel materials (e.g., natural wood-based composites or chemically modified wood). My work integrates composite material fabrication and prototyping methodologies to develop deployable systems, aiming to advance tangible interfaces for broader technological deployment.

RESEARCH EXPERIENCE

Guanyun Lab, Zhejiang University **2024.8 - present**

Research Intern | Advisor: Guanyun Wang, Ye Tao

Thermo-Hygro-Coordinating Driven Wood Actuators | Paper | GitHub

Worked on the projects TH-Wood (CHI' 25), a biodegradable actuator system made from wood veneer and microbial polymers, responsive to temperature and humidity, designed for operation in complex outdoor environments.

- Participated in material exploration and performance testing, proposing elm bark as the final manufacturing material.
- Designed and constructed a structural library, specifically providing the design and fabrication solution for the core ejection mechanism.
- Developed application prototypes and conducted functional validation to enable technology deploymen.
- Created the majority of illustrations for the manuscript to enhance visual communication and readabilit.
- Produced and edited demonstration videos to showcase system functionality and promote result dissemination.

College of Material Science and Engineering, Northeast Forestry University **2023.9 - present**

Research Intern | Advisor: Yu Liu

Preparation of Reversible Thermochromic Wood Veneer and Its Impact on Visual Effects

Integrated microencapsulation technology into wood veneer processing to develop a reversible thermochromic wood veneer capable of changing color with temperature variations.

- Participated in the preparation of reversible thermochromic composite materials.
- Participated in the fabrication of reversible thermochromic thin wood veneer.
- Responsible for the visual presentation of article illustrations.

Incorporating Zeolitic Imidazolate Framework-8 (ZIF-8) into Particleboard to Address VOCs Emissions | Paper

- Participated in the experimental preparation of ZIF-8.
- Created visual presentations illustrating the potential reaction mechanisms of ZIF-8 in adsorbing VOCs and formaldehyde within particleboard.

Enhancing Plywood Performance Using Lavender Essential Oil Liposomes | Paper

Encapsulated lavender essential oil in liposomes, followed by chitosan coating; crosslinked the coated liposomes with phosphate ions to form hydrogel beads; incorporated the hydrogel beads into plywood to improve mechanical properties and reduce odor emissions.

- Participated in the synthesis of lavender essential oil hydrogel beads (ELHS).
- Created visual presentations for the preparation, testing processes, and data of ELHS plywood.

PUBLICATION

- **[Manuscript Submitted] Yangweizhe Zheng**, Xiaodong Zhu, Chuang Chen, Guanyun Wang. 2025. SophWood:Fabricating High-resolution and Durable Functional Circuits on Wood Using a Double Physical Barrier. In International Journal of Human – Computer Interaction.
- **[Manuscript Submitted]** Xiaodong Zhu, Lei Li, **Yangweizhe Zheng**, et al. 2025. Preparation of Reversible Thermochromic Wood Veneer and Its Impact on Visual Appeal. In Energy & Buildings.
- **[Accept]** Guanyun Wang, Chuang Chen, Xiao Jin, Yulu Chen, Yangweizhe Zheng, et al. 2025. TH-Wood : Developing Thermo-Hygro-Coordinating Driven Wood Actuators to Enhance Human-Nature Interaction. In Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems. **Best Paper Honorable Mention (top 5% of submissions).**
- **[Accept]** Xiaodong Zhu, Aichen Zhao, **Yangweizhe Zheng**, et al. 2024. Optimizing ZIF-8 Integration in Particleboards: Unlocking Its Potential for VOCs Emission Reduction and Material Performance Enhancement.
- **[Accept]** Liu, Yu, Aichen Zhao, **Yangweizhe Zheng**, et al. 2024. Scented solutions: Harnessing lavender essential oil liposomes for enhanced plywood performance. In Sustainable Chemistry and Pharmacy.

SCHOLARSHIP & AWARDS

- Best Paper Honorable Mention Award, 2025, the ACM Conference on Human Factors in Computing Systems.
- First-Class Scholarship (top 10% of applicants), 2024, Northeast Forestry University.
- Outstanding Graduates (top 3% of applicants), 2022, Nanjing University of the Arts.
- National Encouragement scholarship, 2020, 2021, Nanjing University of the Arts.
- First-Class Scholarship (top 3% of applicants), 2019, Nanjing University of the Arts.

LANGUAGES & SKILLS

- **Fabrication:** 3D printing, laser cutting, basic prototyping techniques, crocheting, etc.
- **Design:** Graphic Design (Image Processing, Vector Graphic Design, Illustration Creation, Layout Design); Video Shooting and Post-Production; 3D Modeling (Maya, Rhino); 2D Animation Drawing，CAD, figma, etc.
- **Experiment＆Research:** design thinking, surveys, statistical analysis (SPSS), modification and post-processing of wood-based materials.
- **Electrical Engineering:** microcontroller (ESP32, Arduino).
- **Fine Art:** drawing, printmaking.
- **Languages:** Chinese (Native), English (Fluent; Preparing for IELTS).

REFERENCESE

- Prof. Guanyun Wang | Assistant Professor and Associate Head, Department of Industrial Design, Zhejiang University
  Email: guanyun@zju.edu.cn
- Prof. Xiaodong Zhu | College of Home and Art Design, Northeast Forestry University
  Email: xiaodongzhu@nefu.edu.cn
- Prof. Liu Yu | Associate Professor, Doctoral Supervisor, College of Material Science and Engineering, Northeast Forestry University
  Email: liuyu820524@126.com