Bingrui Chen

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EDUCATION

Nanjing Forestry University (NJFU) Nanjing, China
M.Sc. in Forestry Engineering (Furniture Design and Engineering) *Sep 2020-Present*

- Supervisor: Prof. Huiyuan Guan
- Average Score: 89/100 GPA: 3.57/4.0
- Scholarship: 1st Class Scholarship; Outstanding Student Scholarship (top 1%).

Nanjing Forestry University (NJFU) Nanjing, China
B.Sc. in Industrial Design (Furniture Design and Manufacture) *Sep 2016-June 2020*

- Average Score: 86.88/100 GPA: 3.57/4.5 Rank: 4/116
- Scholarship: Metasequoia Student Scholarship*2 (top 1%); Outstanding Student Assistant Scholarship*1.

RESEARCH INTERESTS

1. Strength design of mortise-and-tenon joint of wood furniture (M.Sc. thesis);
2. Design and evaluation of detachable connectors for wood furniture by CAE;
3. Compression behavior of transverse grain of the wood;
4. Acoustic emission (AE) of wood and wood-based materials;
5. Design of a portable seat (B.Sc. thesis).

PUBLICATIONS

a. Peer-Reviewed Journal Articles

1. W.G. Hu, **B.R. Chen**, and T.X. Zhang. 2021. Experimental and Numerical Studies on Mechanical Behaviors of Beech Wood under Compressive and Tensile States, Wood Research, 66, 27-37. (IF 1.139). Contribution: Software; validation; experiment; and data curation. [link]
2. W.G. Hu, **B.R. Chen**. 2021. A Methodology for Optimizing Tenon Geometry Dimensions of Mortise-and-Tenon Joint Wood Products, Forests, 12 (4), 478. (IF 2.634). Contribution: Software; validation; investigation; data curation; and original draft. [link]
3. W.G., **B.R. Chen**, X.W. Lin, and H.Y. Guan. 2021. Experimental and Numerical Study on a Novel Bamboo Joint for Furniture Considering Effect of Loading Type on Mechanical Parameters Used in Finite Element Method, Maderas. Ciencia y tecnología, 23. (IF 1.576). Contribution: Experiment and data curation. [link]
4. W.L. Fu, H.Y. Guan, and **B.R. Chen**. 2021. Investigation on the Influence of Moisture Content and Wood Section on the Frictional Properties of Beech Wood Surface, Tribology Transactions 64 (5), 830-840. (IF 1.96). Contribution: Experiment, and data curation. [link]

5. **B.R. Chen**, H.Y. Xia, and W.G Hu. 2022. The Design and Evaluation of Three-dimensional Corner Joints Used in Wooden Furniture Frames: Experimental and Numerical, BioResources, Vol. 17 (2), 2143-2156. (IF 1.614). [link]
6. **B.R. Chen**, X.J. Yu, and W.G Hu. 2022. Experimental and Numerical Studies on the Cantilevered Leg Joint and its Reinforced Version Commonly Used in Modern Wood Furniture, BioResources, Vol. 17 (3), 3952-3964. (IF 1.614). [link]
7. **B.R. Chen**, S.F. Lu, and W.G Hu. 2021. Investigation on Functional Requirements of Public Coffee Tables (Chinese with English summary), Forestry and Grassland Machinery 2(4), 59-61. (IF 0.456). [link]
8. **B.R. Chen**, W.G Hu. 2022. Design and Performance Analysis of a Wood Detachable Oval Mortise-and-Tenon Joint (Chinese with English summary), Chinese Journal of Wood Science and Technology, 36 (2), 65-70+86. (IF 0.852). [link]
9. **B.R. Chen**, X.J. Yu, and W.G Hu. 2022. Study on Improved Structural Design of Cantilever Leg Joints for Wood Chair (Chinese with English summary), Furniture, 43(4) Pre-print, (IF 3.29).

b. Working Papers

1. **B.R. Chen**, H.Y. Guan. A Novel Method to Determinate the Mortise-and-tenon Joint Fit Considering the Tenon Width and Wood Species.
2. **B.R. Chen**, H.Y. Guan. Plastic Deformation and mounting force of the Mortise-and-tenon Under Different Interference Fit.

c. Granted Patents (total of 12; selection)

1. **B.R. Chen**, H.Y. Guan. 2022. Measuring Device for Measuring the Withdrawal Load Capacity of Wood Mortise, CN216621990U.
2. **B.R. Chen**, H.Y. Xia, Y. Liu, and W.G. Hu. 2022. A Novel Furniture Connector and a Furniture Structure with the Connector, CN215980293U.
3. **B.R. Chen**, Y.He, W.G. Hu, Y. Liu, and S. Li. 2022. A Novel Furniture Corner Connector and Furniture Corner Joints. CN215444652U.

RESEARCH EXPERIENCE

Project Leader

- Postgraduate Research Innovation Program of Jiangsu Province *2020-June 2022*

Study on the Forming Mechanism of Mortise-and-tenon Joint Strength of Wood Furniture

Graduate Research Assistant

- Research Project: Acoustic emission (AE) of wood and wood-based materials

Help conduct experiments and process data. *June 2020-May 2022*

Graduate Teaching Assistant

- *Furniture Structure (For overseas students in English)* *June 2022*
- *Curriculum Design of Furniture Design and Manufacture* *March 2021*
- *Graduation Design (B.Sc. thesis) for five students* *April 2020-July 2020*

LANGUAGE & SKILLS

a. Language: Chinese (native); English (IELTS: 6.5).

b. Skills: Modelling (CAD, SolidWorks, JD Paint); Finite element simulation (Abaqus); Experiment skills (Universal testing machine, FFT, SEM, etc.); Wood processing (CNC etc.); Data analyzing (SPSS, Origin, Design expert).