Bingrui Chen

M.Sc. student of Furniture Design and Engineering
Department of Furniture Design
College of Furnishings and Industrial Design
Nanjing Forestry University
Researcher ID: ResearchGate · Google Scholar · Website

159 Longpan Road
Nanjing, Jiangsu, China 210037
e-mail: cbr@njfu.edu.cn
Phone: (86) 13182812088

EDUCATION

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

- Supervisor: Prof. Dr. Huiyuan Guan Associate Prof. Dr. Wengang Hu
- Average Score: 89/100 GPA: 3.57/4.0
- Scholarship: 1st Class Scholarship*2; Outstanding Student Scholarship (top 1%).

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

- Supervisor: Prof. Dr. Huiyuan Guan
- Average Score: 86.88/100 GPA: 3.57/4.5 Rank: 4/116
- Scholarship: Metasequoia Student Scholarship*3 (top 1%).

RESEARCH INTERESTS

1. Wood structure durability (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. **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]
2. **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]
3. **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]
4. **B.R. Chen** and 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]
5. **B.R. Chen**, X.J. Yu, and W.G Hu. 2022. Improved Structural Design of Cantilever Leg Joints of Chair (Chinese with English summary), *Furniture*, 43(5), 49-53. (IF 3.29). [link]
6. 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]

7. 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]
8. W.G. Hu, **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]
9. 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]

b. Working Papers

1. **B.R. Chen**, H.Y. Guan. 2022. A Novel Method to Determinate the Optimal Interference Fit of Oval Mortise-and-Tenon Joint Considering the Wood Species, Tenon Width and Grain orientation, *Wood Materials Science and Engineering*, Under Review.
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/ Granted Funding

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

Forming Mechanism of Mortise-and-tenon Joint Strength of Wood Furniture *15,000 RMB*

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 and CNC Programming etc.); Statistic analyzing (SPSS, Origin, Design expert).