

# Bingrui Chen

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## EDUCATION

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### 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: 1<sup>st</sup> 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

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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

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### 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*

data curation. [\[link\]](#)

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. [\[link\]](#)

### 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 Material 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).