

# ZHUOCHENG DUAN

Email: duanzhuocheng@tju.edu.cn

Tel: +86 18702778928

Address: No. 92 Weijin Street, Nankai District, Tianjin 300072, China

Date of Birth: 31 July 1997



## Education

**Master of Science in Architecture, Tianjin University, China**

Tianjin

Average Score 91.18/100 (top 5%)

2020.09 - 2023.01

Focus on life cycle assessment, mass timber construction, sustainable building design

**Bachelor of Architecture, Wuhan University of Technology, China**

Wuhan, Hubei

Average Score 89.42/100 (top 5%)

2015.09 - 2020.06

Focus on post occupancy evaluation, campus space activation

**SAKURA Science Club, Shibaura Institute of Technology**

Japan

Exchange project

2017.10.23 - 2017.10.30

Google scholar: [\[Web\]](#)

## Publications

**Duan, Z.**, Huang, Q., & Zhang, Q. (2022). Life cycle assessment of mass timber construction: A review. Building and Environment, 221, 109320. (JCR Q1, IF=7.09) [\[pdf\]](#)

**Duan, Z.**, Huang, Q., Sun, Q., & Zhang, Q. (2022). Comparative life cycle assessment of a reinforced concrete residential building with equivalent cross laminated timber alternatives in China. Journal of Building Engineering, 105357. (JCR Q1, IF=7.14) [\[pdf\]](#)

**Duan, Z.** (2022). Impact of climate change on the life cycle greenhouse gas emissions of cross laminated timber and reinforced concrete buildings under different climate zones in China. Journal of Cleaner Production. (In revision) [\[pdf\]](#)

Sun, Q., Huang, Q., **Duan, Z.**, & Zhang, A. (2022). Recycling Potential Comparison of Mass Timber Constructions and Concrete Buildings: A Case Study in China. Sustainability, 14(10), 6174. (JCR Q2, IF=3.89) [\[pdf\]](#)

Tang, S., **Duan, Z.**, Chen, W., & Qiao, H. (2022). Research on post occupancy evaluation of Oze National Park in Japan based on online reviews. Journal of Asian Architecture and Building Engineering, 1-18. (Corresponding author, JCR Q4, IF=0.90) [\[pdf\]](#)

**Duan, Z.**, & Zhang, Y. (2019). Research on the Vitality of Public Space Around Educational Buildings Based on SD Method. Urbanism and Architecture, 16(10), 31-36. (in Chinese)

**Duan, Z.**, Zhu, B., Wang, M., Li, M., & Zhang, Y. (2019). The Passive Space Activation Strategy of College Campus from the Perspective of Space Acupuncture. Urbanism and Architecture, 16(04), 91-94+126. (in Chinese)

Zhu, B., **Duan, Z.**, Li, M., Wang, M., & Zhang, Y. (2019). Analysis on Public Space Design Based on "Campus Acupuncture"—A Case of Wuhan University of Technology. Urbanism and Architecture, 16(07), 8-13. (in Chinese)

## Research

**Solar Decathlon China: Tianjin U+**

Zhangjiakou

Key Member (Supervised by Prof. Wei Yang)

2021-2022

- Took the lead on the design to reduce thermal bridges in the building envelope, particularly at joints between prefabricated and customizable modules
- Waterproof and breathable membrane installation in the building envelope
- Interior design and management of interior wall finishes

**National Key Research and Development Program of China (No.2016YFC0700201): Goal and effect-oriented green building design principles and methodologies**

Tianjin

09.2021 - Present

Researcher (Supervised by Prof. Qiong Huang)

- Conducted systematic review on life cycle assessment of mass timber construction
- Developed quantitative evaluations about the life cycle greenhouse gas emissions and life cycle primary energy of three residential buildings in Tianjin, China (RC/CLT/Hybrid CLT buildings)
- Assessed the impact of climate change on the heating and cooling energy demand

## National Natural Science Foundation of China (No. 51808418)

Researcher (Supervised by Prof. Sony Tang)

- Explored the post occupancy evaluation of national parks based on online reviews, by conducting content analysis, semantic analysis and topics analysis through python

Wuhan, Hubei

2019-2020

## Independent Innovation Project of Wuhan University of Technology (No. 2018-TJ-B1-09): Study on the Activation of Negative Space in University Campus from the Perspective of Space Acupuncture

Wuhan, Hubei

2018-2019

Researcher (Supervised by Prof. Yi Zhang)

- Conducted field survey and questionnaire survey of campus space in universities in Wuhan, China, and identified a "campus enclave" as a space that is not integrated into campus life and lacks vitality.
- Summarized strategies for activating campus space based on investigations across China.

## Award

First place in 3rd Solar Decathlon China (Key member)

2022

China National Scholarship (0.2%)

2022

Tianjin University first-class scholarship (Two times) (10%)

2021,2022

Triple-A student

2021,2022

Tianjin University second-class scholarship (30%)

2020

Outstanding Graduates of Wuhan University of Technology (WUT)

2020

Third Prize in China National College English Contest

2018,2019

Outstanding student cadres (Three times at WUT)

2016-2019

National Encouragement Scholarship (Four times at WUT) (3%)

2015-2019

## Internship

### AA Studio, Tianjin, China

Tianjin

Associate Architect

2020-2021

- Participated in the bidding project of Xiong'an Library, drawing analysis graphics
- Participated in Archives of Hebei Province bidding project, Lumion animation rendering

### Guoheng Architectural Design Co., Ltd., Chongqing, China

Chongqing

Associate Architect

10.2019-11.2019

- Participated in design of Winery facilities

## Other Experience

Mapping and survey of ancient dwellings in Xianning, Hubei

Xianning, Hubei

06.2018-0..2018

Participated in the organization of the exhibition "Rural Intervention - Awakening of Signs" sponsored by the Central Academy of Fine Arts and China Architectural Design Institute Co., Ltd.

Jingdezhen, Jiangxi

05.2021-06.2021

## TECHNICAL & LANGUAGE SKILLS

Building energy modeling & operational energy simulation: DesignBuilder

Building 3D modeling: AutoCAD, Revit, SketchUp, Rhinoceros, Grasshopper,

Post-processing: Photoshop, Illustrator, InDesign

Programming: Python (Data crawler, data analysis, etc.)

IELTS 7.0 (Listening 8.5, Reading 7.0, Writing 6.0, Speaking 6.0)

21.08.2022

## References

Prof. Qiong Huang (Associate Professor, School of Architecture, Tianjin University, China)

qhuang@tju.edu.cn

Prof. Shouni Tang (Project researcher, School of Engineering, The University of Tokyo, Japan)

archpsy@g.ecc.u-tokyo.ac.jp

Prof. Wei Yang (Professor, School of Architecture, Tianjin University, China)

walker\_yang@tju.edu.cn

Prof. Qi Zhang (Professor, School of Architecture, Tianjin University, China)

zhangqi\_arch@vip.163.com