

YADONG JIANG

Post-doctoral Researcher

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RESEARCH & PROFESSIONAL EXPERIENCES

Jun. 2018 ~ Present - Post-doctoral Researcher

Civil Engineering, College of Engineering & Informatics
Centre for Marine and Renewable Energy (MaREI), Ryan Institute,
National University of Ireland Galway, Galway, Ireland
Projects: Flotec, SEABLADE, MARINET II
Principal Investigator: Dr Jamie Goggins

Feb. 2017 ~ May. 2017 - Research Assistant

Department of Civil and Environmental Engineering (CEE)
Hong Kong Polytechnic University, Hong Kong
Project Title: Application of Polygonal High Strength Concrete-filled composite Column in Seismic-resistant Buildings in Hong Kong
Supervisor: Tak-Ming Chan

- Assisted the preparation of polygonal CFST specimens
- Conducted the research on the bending capacity of octangular CFST columns
- Assisted the steel coupon tests (Monotonic / Cyclic)

Jan. 2014 ~ Feb. 2015 - Research Assistant

Faculty of Engineering (FEUP)
University of Porto, Porto, Portugal
Project Title: Recycling & Seismic Protection: Sustainable High Performance Concrete-Filled Steel Tubular (CFST) Columns for Seismic Areas
Supervisor: Jose Miguel Castro

- Prepared and tested the material properties of concrete cubes and steel coupons
- Predicted the preliminary test results of prepared CFST specimens with ABAQUS

Feb. 2012 ~ Apr. 2012 - Internship

Metro tunnel cracks investigation, Shanghai, P.R. China

EDUCATION

Sep. 2014 ~ Feb. 2018 - Ph.D, Earthquake Engineering and Engineering Seismology

University School for Advanced Studies IUSS Pavia, Pavia, Italy
University of Pavia, Pavia, Italy
Thesis: Seismic Assessment of Composite Frames with Concrete-Filled Steel Tube Columns (CFST)
Advisors: Ricardo Monteiro and Jose Miguel Castro

- Monotonic / Cyclic Bending tests of CFST members combined with constant axial load
- Micro-mechanism model development of CFST members in ABAQUS
- Distributed Plasticity (DP) Model and Concentrated Plasticity model (CP) development of CFST member in OpenSees
- Material strength correction equations deriving for circular CFST members
- Ductile fracture prediction of circular CFST members under cyclic bending
- Seismic performance assessment of composite structure based on Incremental Dynamic Analysis (IDA)

Sep. 2012 ~ May. 2014 - Master of Science, Earthquake Engineering and Engineering Seismology

University School for Advanced Studies IUSS Pavia, Pavia, Italy

University of Pavia, Pavia, Italy

Thesis: Experimental and Numerical Behaviour Assessment of Rubberized Concrete Filled Steel Tube

Advisors: Ricardo Monteiro and Jose Miguel Castro

- Preparation of test campaign based on material properties, member ductility and lateral load types
- Steel foundation box design to constrain specimens efficiently
- Micro-mechanism model development and calibration of CFST columns in ABAQUS

Sep. 2008 ~ Jun. 2012 - Bachelor of Engineering, Civil Engineering

Tongji University, Shanghai, P.R. China

GPA: 4.23 / 5.0 (Five-point grading system)

SKILL SETS

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| • ABAQUS / OpenSees / RUAUMOKO/ SeismoStruct Modelling and Analysing | • Auto CAD Engineering Drawing |
| • Python / C++ / C# language Programming | • L ^A T _E X Basics |
| • Matlab Scripting | • OpenSees Material Developing |
| • Word / Excel / PowerPoint Processing | |

SCHOLARSHIPS

Sep. 2014 ~ Aug. 2017 - IUSS Ph.D. Scholarship

Sep. 2012 ~ May. 2014 - UME-Tongji M.Sc Scholarship

Sep. 2010 ~ Sep. 2012 - Tongji University Annual Bachelor Scholarship

CONFERENCES & WORKSHOPS

Sep. 2017 - Eurosteel 2017, Copenhagen, Denmark

8th European Conference on Steel and Composite Structures

Oral Presentations:

Numerical modelling of circular CFST members and assessment of multi-axial stress state effects

Experimental characterisation of the flexural behaviour of rubberized concrete-filled steel tubular members

Jun. 2017 - OpenSees Days Europe 2017, Porto, Portugal

Oral Presentation:

Numerical modelling of concrete-filled steel tubular members in opensees

Jan. 2017 - WCEE16, Santiago, Chile

16th World Conference on Earthquake Engineering

Oral Presentation:

Experimental and numerical assessment of the behaviour of RuCFST members under monotonic and cyclic bending

Nov. 2015 - Steel-Earth Workshop, Coimbra, Portugal

Oral Presentation:

Experimental and Numerical Assessment of the Behaviour of Rubberized Concrete Filled Steel Tubes

Jul. 2015 - STESSA15, Shanghai, China

8th International Conference on Behavior of Steel Structures in Seismic Areas

Oral Presentation:

Experimental assessment of the behaviour of rubberized concrete filled steel tube members

Jul. 2014 - OpenSees Days Portugal, Porto, Portugal

Oral Presentation:

Opensees as an engine for web-based applications

PUBLICATIONS

- Y. Jiang, A. Silva, L. Macedo, J.M. Castro, R. Monteiro and T.M. Chan. Simplified modelling of circular CFST members with a Concentrated Plasticity approach. *ASCCS 2018 - 12th International Conference on Advances in Steel-Concrete Composite Structures*, Valencia, Spain, 2018.
- A. Silva, Y. Jiang, L. Macedo, J.M. Castro and R. Monteiro. Seismic performance assessment of conventional steel and steel-concrete composite moment frames using CFST columns. *ASCCS 2018 - 12th International Conference on Advances in Steel-Concrete Composite Structures*, Valencia, Spain, 2018.
- Y. Jiang, A. Silva, L. Macedo, J.M. Castro and R. Monteiro. Seismic Performance of Composite Structures Made with Concrete-Filled Steel Tubular Members. *16ECEE- 16th European Conference on Earthquake Engineering*, Thessaloniki, Greece, 2018.
- Y. Jiang, A. Silva, J.M. Castro, T.M. Chan and R. Monteiro. Experimental Study and Numerical Assessment of the Flexural behaviour of Square and Rectangular CFST Members under Monotonic and Cyclic Loading. *9th International Conference on Behavior of Steel Structures in Seismic Areas*, Christchurch, New Zealand, 2018. DOI: [10.4028/www.scientific.net/KEM.763.804](https://doi.org/10.4028/www.scientific.net/KEM.763.804)
- A. Silva, Y. Jiang, J.M. Castro, N. Silvestre, and R. Monteiro. Monotonic and cyclic flexural behaviour of square/rectangular rubberized concrete-filled steel tubes. *Journal of Constructional Steel Research*, 139: 385 - 396, 2017. DOI: [10.1016/j.jcsr.2017.09.006](https://doi.org/10.1016/j.jcsr.2017.09.006).
- Y. Jiang, B. Kalemi, A. Silva, J.M. Castro, and R. Monteiro. Numerical modelling of circular CFST members and assessment of multi-axial stress state effects. *ce/papers*, 1 (2 - 3): 2128 - 2137, 2017. DOI: [10.1002/cepa.258](https://doi.org/10.1002/cepa.258).
- A. Silva, Y. Jiang, J.M. Castro, and R. Monteiro. Experimental characterisation of the flexural behaviour of rubberized concrete-filled steel tubular members. *ce/papers*, 1 (2 - 3): 2147 - 2156, 2017. DOI: [10.1002/cepa.260](https://doi.org/10.1002/cepa.260).
- Y. Jiang, A. Silva, L. Macedo, J.M. Castro, and R. Monteiro. Numerical modelling of concrete-filled steel tubular members in opensees. *OpenSees Days Europe 2017*, Porto, Portugal, 2017.
- Y. Jiang, A. Silva, J.M. Castro, R. Monteiro, and N. Silvestre. Experimental and numerical assessment of the behaviour of RuCFST members under monotonic and cyclic bending. *16th World Conference on Earthquake Engineering*, Santiago, Chile, 2017.
- A. Silva, Y. Jiang, L. Macedo, J.M. Castro, N. Silvestre, and R. Monteiro. Seismic design of composite moment resisting frames with cfst members. *16th World Conference on Earthquake Engineering*, Santiago, Chile, 2017.
- A. Silva, Y. Jiang, J.M. Castro, N. Silvestre, and R. Monteiro. Experimental assessment of the flexural behaviour of circular rubberized concrete-filled steel tubes. *Journal of Constructional Steel Research*, 122: 557 - 570, 2016. DOI: [10.1016/j.jcsr.2016.04.016](https://doi.org/10.1016/j.jcsr.2016.04.016).
- A. Silva, Y. Jiang, L. Macedo, J.M. Castro, R. Monteiro, and N. Silvestre. Seismic performance of composite moment-resisting frames achieved with sustainable cfst members. *Frontiers of Structural and Civil Engineering*, 10(3): 312 - 332, 2016. DOI: [10.1007/s11709-016-0345-y](https://doi.org/10.1007/s11709-016-0345-y).
- Y. Jiang, A. Silva, J.M. Castro, and R. Monteiro. Experimental assessment of the behaviour of rubberized concrete filled steel tube members. *8th International Conference on Behavior of Steel Structures in Seismic Areas*, Shanghai, China, 2015.
- Y. Jiang, R. Barros, and J.M. Castro. Opensees as an engine for web-based applications. *OpenSees Days Portugal 2014*, Porto, Portugal, 2014.