

Zhongyuan Wo

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EDUCATION

- The University of Michigan**, Ann Arbor, MI, USA 2017 – Dec 2022 (Expected)
- Ph.D. in Civil Engineering
- Tsinghua University**, Beijing, China 2013 – 2017
- Bachelor of Engineering in Civil Engineering (*summa cum laude*)
- Tsinghua University**, Beijing, China 2014 – 2017
- Bachelor of Science in Economics (dual degree)

DOCTORAL RESEARCH

Buckling-driven Functions of Morphable Tubular Structures, Advisor: [Prof. Evgueni T. Filipov](#)

My research aims to explore the instability of morphing tubes and harness buckling for functional applications. Folding motions can allow for deployment, reconfiguration, and compact storage of the systems, while buckling of the thin walls can be used to tune the system properties or achieve secondary functions such as energy absorption and multi-stable bending.

PUBLICATIONS

Wo, Z., & Filipov, E.T., 2021, "Bending Stability of Corrugated Tubes with Anisotropic Frustum Shells." *ASME. J. Appl. Mech.* doi: [10.1115/1.4053267](https://doi.org/10.1115/1.4053267)

Wo, Z., Ranases, J.M., & Filipov, E.T., 2021, "A Numerical and Experimental Study on the Energy Absorption Characteristics of Deployable Origami Tubes." *Proceedings of the ASME 2021 IDETC/CIE*. doi: [10.1115/DETC2021-66723](https://doi.org/10.1115/DETC2021-66723) (Invited to and being reviewed by *ASME J. Mech. Rob.*)

CONFERENCES POSTERS & PRESENTATIONS

Wo, Z., Ranases, J.M., & Filipov, E.T., "A Numerical and Experimental Study on the Energy Absorption Characteristics of Deployable Origami Tubes." ASME IDETC/CIE, Virtual, **2021** (Oral Presentation)

Wo, Z., Ranases, J.M., & Filipov, E.T., "Using tunable origami for active energy absorption." American Physical Society March Meeting, Boston, **2019** (Oral Presentation)

Wo, Z., & Filipov, E.T., "Geometric implications for stress concentration in Miura origami." World Congress on Computation Mechanics, New York, **2018** (Poster & Oral Presentation)

TEACHING EXPERIENCES

Graduate Student Instructor – CEE 413 Design of Metal Structures (Fall 2020, Fall 2021) – [Prof. Jason McCormick](#)

- Teaching weekly lab sessions
- Holding office hours and discussions

HONORS & AWARDS

2018 Poster Competition Finalist, World Congress on Computation Mechanics

2017 Excellent Bachelor Graduates, Tsinghua University

Last Updated: January 4, 2022

2016 Mao Yisheng Scholarship

2015 Tsinghua Science & Technology Scholarship, Tsinghua University

2015 First prize, China Undergraduate Mathematical Contest in Modeling

2015 Meritorious Winner, Mathematical Contest in Modeling

2015 National Scholarship, Ministry of Education of China

2014, 2015, & 2016 Academic Excellence Scholarship, Tsinghua University

SKILLS

Programming Languages: MATLAB, Python, Julia, Mathematica, C++

Engineering Software: ABAQUS, SAP2000, AutoCAD, SolidWorks, and more

Lab Experiences: Mechanical Load Tests, Laser Cutter