

# Junliang “Julian” Tao

PhD, Associate Professor

## Curriculum Vitae

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## Education

PhD	Civil Engineering	Case Western Reserve University	Cleveland, US	2013
MS	Civil Engineering	Tongji University	Shanghai, China	2009
BS	Civil Engineering	China University of Geosciences	Wuhan, China	2006

## Experiences

2018– **Associate Professor**, School of Sustainable Engineering and the Built Environment,  
Arizona State University  
2013–2018 **Assistant Professor**, Department of Civil Engineering, University of Akron

## Selected awards and honours

2017 CAREER Award, National Science Foundation  
2017 Young Engineer of the Year Award, American Society of Civil Engineers, Akron Section

## Professional Membership and Service

Chair of Organizing Committee	International Conference on Biomediated and Bioinspired Geotechnics 2025
Chair of Technical Committee	GeoShanghai International Conference 2024
Member	American Society of Civil Engineers (ASCE) Geo-Institute

I have participated in organizing or chairing **20** technical conferences or sessions, served on **12** technical committees, and reviewed for **32** journals, **3** funding agencies. I also volunteered in **15** outreach activities.

## Patents, Publications, and Invited Talks

Since 2009, I have authored **113** research publications, including **43** journal papers, **65** conference papers, and **5** technical reports, co-edited **3** books, and filed **2** patents. I also have delivered **34** invited talks to universities, local, national and international conferences. As of April 24, 2024, my h-index is **18** and i10-index is **34**, with total citations of **1,496**. (**Bold**: PhD student, #: undergrad student, \*: corresponding)

1. **X Li**, L van Paassen, and J Tao\*. Effects of Sediment Densification and Strengthening on Scour around Monopiles Using Mangrove-Inspired Skirt Piles. *Acta Geotechnica* (2024). DOI: 10.1007/s11440-023-02182-y.
2. **Y Tang**, **Y Zhong**, and J Tao\*. Bio-Inspired Rotational Penetration and Horizontal Self-Burrowing Soft Robot. *Acta Geotechnica* (2024). DOI: 10.1007/s11440-023-02173-z.
3. **Y Zhong**, S Huang<sup>×</sup>, and J Tao\*. Minimalistic Horizontal Burrowing Robots. *Journal of Geotechnical and Geoenvironmental Engineering* **149**(4) (2023), 02823001. DOI: 10.1061/JGGEFK.GTENG-11468.
4. **Y Tang** and J Tao\*. Multiscale Analysis of Rotational Penetration in Shallow Dry Sand and Implications for Self-Burrowing Robot Design. *Acta Geotechnica* **17** (2022), 4233–4252. DOI: 10.1007/s11440-022-01492-x.
5. **Y Zhong** and J Tao\*. Bio-Inspired Vibrational Wireless Underground Communication System. *Journal of Rock Mechanics and Geotechnical Engineering* **14** (2022). DOI: 10.1016/j.jrmge.2022.06.005.
6. J Tao. Burrowing Soft Robots Break New Ground. *Science Robotics* **6**(55) (2021). DOI: 10.1126/scirobotics.abj3615.
7. **S Huang**, **Y Tang**, H Bagheri, D Li, A Ardente<sup>#</sup>, D Aukes, H Marvi, and J Tao\*. Effects of Friction Anisotropy on Upward Burrowing Behavior of Soft Robots in Granular Materials. *Advanced Intelligent Systems* **2**(6) (2020), 1900183. DOI: 10.1002/aisy.201900183.
8. J Tao\*, **S Huang**, and **Y Tang**. SBOR: A Minimalistic Soft Self-Burrowing-out Robot Inspired by Razor Clams. *Bioinspiration & Biomimetics* **15**(5) (2020), 055003. DOI: 10.1088/1748-3190/ab8754.
9. J Tao\*, **S Huang**, and **Y Tang**. Bioinspired Self-Burrowing-Out Robot in Dry Sand. *Journal of Geotechnical and Geoenvironmental Engineering* **145**(12) (2019), 02819002. DOI: 10.1061/(ASCE)GT.1943-5606.0002177.