

# Junliang “Julian” Tao

PhD, Associate Professor

## Curriculum Vitae

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## Education

|            |                   |                                 |                 |      |
|------------|-------------------|---------------------------------|-----------------|------|
| <b>PhD</b> | Civil Engineering | Case Western Reserve University | Cleveland, US   | 2013 |
| <b>MS</b>  | Civil Engineering | Tongji University               | Shanghai, China | 2009 |
| <b>BS</b>  | Civil Engineering | China University of Geosciences | Wuhan, China    | 2006 |

## Experiences

|           |                                                                                                                          |
|-----------|--------------------------------------------------------------------------------------------------------------------------|
| 2022      | <b>Guest Professor</b> , Institute of Geotechnical Engineering, University of Natural Resources and Life Sciences (BOKU) |
| 2018–     | <b>Associate Professor</b> , School of Sustainable Engineering and the Built Environment, Arizona State University       |
| 2013–2018 | <b>Assistant Professor</b> , Department of Civil Engineering, University of Akron                                        |

## Selected awards and honours

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

## Professional Membership and Service

|                  |                                                                                |
|------------------|--------------------------------------------------------------------------------|
| Associate Member | American Society of Civil Engineers (ASCE) Geo-Institute                       |
| Member           | Institute of Electrical and Electronics Engineers (IEEE)                       |
| Member           | International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) |
| Member           | Society for Integrative and Comparative Biology (SICB)                         |

I have participated in organizing or chairing 19 technical conferences or sessions, served on 12 technical committees, and reviewed for 30 journals, 3 funding agencies. I also volunteered in 14 outreach activities.

## Patents, Publications, and Invited Talks

Since 2009 I have authored 110 research publications, including 40 journal papers, 65 conference papers, and 5 technical reports, co-edited 3 books, and filed 2 patents. I also have delivered 32 invited talks to universities, local, national and international conferences. As of April 19, 2023, my h-index is 17 and i10-index is 27, with total citations of 1,152. (**Bold**: PhD student, #: undergrad student, \*: corresponding)

1. **Y Zhong**, S Huang<sup>×</sup>, and J Tao<sup>\*</sup>. Minimalistic Horizontal Burrowing Robots. *Journal of Geotechnical and Geoenvironmental Engineering* **149**(4) (2023), 02823001. DOI: [10.1061/JGGEFK.GTENG-11468](https://doi.org/10.1061/JGGEFK.GTENG-11468).
2. **Y Tang** and J Tao<sup>\*</sup>. 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](https://doi.org/10.1007/s11440-022-01492-x).
3. **Y Zhong** and J Tao<sup>\*</sup>. Bio-Inspired Vibrational Wireless Underground Communication System. *Journal of Rock Mechanics and Geotechnical Engineering* **14** (2022). DOI: [10.1016/j.jrmge.2022.06.005](https://doi.org/10.1016/j.jrmge.2022.06.005).
4. J Tao. Burrowing Soft Robots Break New Ground. *Science Robotics* **6**(55) (2021). DOI: [10.1126/scirobotics.abj3615](https://doi.org/10.1126/scirobotics.abj3615).
5. **S Huang**, **Y Tang**, H Bagheri, D Li, A Ardente<sup>#</sup>, D Aukes, H Marvi, and J Tao<sup>\*</sup>. 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](https://doi.org/10.1002/aisy.201900183).
6. J Tao<sup>\*</sup>, **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](https://doi.org/10.1088/1748-3190/ab8754).
7. J Tao<sup>\*</sup>, **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](https://doi.org/10.1061/(ASCE)GT.1943-5606.0002177).
8. J Tao and X Yu<sup>\*</sup>. Hair Flow Sensors: From Bio-Inspiration to Bio-Mimicking—a Review. *Smart Materials and Structures* **21**(11) (2012), 113001. DOI: [10.1088/0964-1726/21/11/113001](https://doi.org/10.1088/0964-1726/21/11/113001).