Junxiang Wang

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HIGHLIGHT

- Three full **international scholarship** holder
- Strong **STEM** background
- Open mind and a Team player in multicultural environment

EDUCATION BACKGROUND

Ph.D. in Structural and Solid Mechanics Oct. 2019 - Jun. 2023
University of Padova, Venezia, Italy

Joint Ph.D. Course in Structural and Solid Mechanics Apr. 2022 - July 2022
University of Stuttgart, Stuttgart, Germany

Bachelor and Master Degree in Civil Engineering Sep. 2012 - Jun. 2019
Hubei University of Technology, Hubei, China

RESEARCH AND OVERSEAS EXPERIENCE

University of Stuttgart, Germany | *Ph.D. Student* Apr. 2022 - Oct. 2022
Project: Mathematical Modelling of Sandstone Natural Hydraulic Fracturing

- Incorporating **Phase-Field** factor into the partial differential equations for describing biphasic media fracturing
- Developing **FEM solver** in **C++** and **Fortran** programming language over **Linux** platform
- The **first** contribution provides a theoretical basis for the occurrence of NHF

University of Padua, Italy | *Ph.D. Student* Oct. 2019 - Jun. 2023
Project: Mathematical Modelling of soil subjected to cyclic loading

- Studying dynamics of porous media, computational mechanics and non linear mechanics
- A cyclic constitutive model that could achieve the typical deformation characters of soil under cyclic(dynamic) loading such as: shakedown, degradation and strain accumulation is developed
- An **ABAQUS UEL-UMAT** code was built to realize the constitutive model

HuBei University of Technology, China | *Master Student* Sep. 2016 - Jun. 2019
Project: Research on Dynamic Characteristics of Expansive Soil

- Conducting the dynamic triaxial experiments with different confining pressure and loading frequency
- Analysis the deformation properties such as hysterics, stiffness degradation of expansive clay under different dynamic loading conditions
- Using **python** to complement the process of data analyzing

Deutsch—Chinesischer Kulturaustausch fur Kunst und Design e.V., Germany | *Exchange Student* Apr. 2017 - Oct. 2017
Project: International Cooperation Project about “One Belt and One Road Initiative”

- Designing exhibition hall by using Rhino and Grasshopper with the local professor and students
- Using **Python** and **Abaqus** to perform the structural analysis
- Working as a translator for the delegation from China

PUBLICATIONS

Numerical Modelling of Soil Subjected to Cyclic Loading |

- **Wang J.**, Xotta, G., De Marchi, N., and Salomoni, V. An Enhanced Bounding Surface Model for Modelling Various Cyclic Behaviour of Clay. *Materials*, 15(21), 7609.

Natural Hydraulic Fracturing Applied to Experiments on Sandstone Cylinders |

- **Wang J.**, Sonntag A., Lee D., Xotta G., Salomoni V., Steeb H., Wagner A. and Ehlers W., Modelling and simulation of natural hydraulic fracturing applied to experiments on natural sandstone cores, *Acta Geotechnica* (Submitted).

Experimental study of soil subjected to dynamic loading |

- Zhuang X, **Wang J**, Wang K, Li K, Hu Z (2018). Experimental study on dynamic characteristics of expansive soil modified by weathered sand. *Rock and Soil Mechanics, Chinese Academy of Sciences*. 39(S2): 149-156.
- Zhuang X, **Wang J**, Li K, Wang K, Hu Z (2019). Comparative study on characteristic of hysteretic curves of expansive soil improved by weathered sand. *Chinese Journal of Rock Mechanics and Engineering*. 38(s2):3709-3716.

CONFERENCE PRESENTATION

Oral Presentation for <CYCLIC PLASTICITY OF SOILS > | 16^{th} *International Conference on Computational Plasticity. Fundamentals and Applications* Barcelona, Spain Sep. 2021

- **J. Wang**, G. Xotta, N. De Marchi, X. Zhuang and V. Salomoni. An upgraded bounding surface model for expansive soil

Oral Presentation for <Modeling complex fluid and solid dynamics during earthquake ruptures II > | 8^{th} *European Congress on Computational Methods in Applied Sciences and Engineering* Oslo, Norway Jun. 2022

- **J. Wang**, G. Xotta, N. De Marchi, X. Zhuang and V. Salomoni. Implementation of a bounding surface constitutive model for fully coupled dynamic analysis of soil and its validation using dynamic triaxial test

Oral Presentation for < Dynamical Systems And Applications In Civil And Mechanical Structures > | 15^{th} *CONVEGNO AIMETA* Palermo, Italy Sep. 2022

- **J. Wang**, G. Xotta, N. De Marchi, X. Zhuang and V. Salomoni. Anisotropic Bounding Surface Plasticity Model for Porous Media Subjected to Complex Loading Condition

SPECIALIZED TRAINING

Numerical Method and Modelling | *University of Stuttgart, Germany* Apr. 2022

- Course of the Theory of Porous Media

Computational Plasticity | *Universitat Politecnica de Catalunya, Spain* Sep. 2021

- Short Course on Computational Plasticity

Constitutive Modelling | *Dassault Systèmes, Italy* May. 2021

- Writing User Subroutines with Abaqus

TECHNICAL SKILLS

Techniques |

- Develop FEM solver in **Linux** platform with **GIT**
- Proficient with the operation of GDS testing equipment.
- Proficient with specialized software like Abaqus, Rhino and Grasshopper.
- Proficient with programming languages such as: **Fortran, Matlab and Python.**

Certificate |

- National Computer Rank Examination Certification, C-Programming (level 2, highest for non C.S. student).
- National College English Test Certification. (level 6, highest for non English student)

Language |

- English: Fluent
- Italian: Daily Communication
- Chinese: Mother tongue

HONORS & AWARD

University of Padova, Italy | *Full International scholarship* Jun. 2019

University of Stuttgart, Germany | *Full International scholarship* Apr. 2022

Hubei University of Technology, China | *Excellent College Student* 2013 - 2015