

Zhengyu Hu

Civil & Environmental Engineering
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PHD DEGREE CANDIDATE, CIVIL & ENVIRONMENTAL ENGINEERING, NATIONAL UNIVERSITY OF SINGAPORE

EDUCATION	Zhejiang University , Hangzhou, China <i>Master of Engineering</i> , Shipbuilding and Oceanography Engineering GPA: 3.86/4 (1/40) National University of Singapore , Singapore <i>PhD</i> , Civil Engineering	2018.9 - 2021.6 2021.8-
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RESEARCH INTERESTS	Wave Attenuation by Vegetation, Wave and Tidal Energy Converter Risk Analysis of Coral Reefs, Turbulence
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PUBLICATIONS	Zhengyu Hu , Fang He. Laboratory Study of Turbulent Kinetic Energy within Mangrove Forest under Waves. (Preprint) Zhengyu Hu , Fang He. Experimental Study on Wave Attenuation by Vegetation by means of Particle Imaging Velocimetry. (Preprint) Zhengyu Hu , Fang He. Laboratory Study of Wave Attenuation by Mangrove Forest. (Preprint) Zhengyu Hu , Fang He. Numerical and Experimental Study on the Interaction between A Novel Coral Nursery and Current. (To be submitted) Fang He, Zhengyu Hu . 11 Chinese Patents. More details
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AWARDS & ACHIEVEMENTS	Awarded the Academic scholarship , China Awarded the Zhoushan Chamber of Commerce scholarship , China Awarded the Excellent graduate student , Zhejiang University, China Awarded the Triple-A graduate student , Zhejiang University, China
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RESEARCH PROJECTS	Research and Application of Marine Hazard Reduction Evaluation and Establishment Optimization Technology of Typical Coastal Wetlands <i>Supervisors : Prof. Pengzhi Lin and Prof. Fang He</i> Aug '1,2018 - June '30,2019 - Field Investigation, Data Collection and Characteristics Analysis of Typical Coastal Wetlands - Study on the Interaction between Typical Coastal Vegetation and Storm Surge - Study on Evaluation Method of Hazard Reduction Function of Vegetation in the Coastal Wetland - Study on Optimization Technology of Vegetation Construction in the Coastal Wetland Study on Damage Mechanism and Risk Early Warning Method of Marine Dynamic Hazard on Coral Reef <i>Supervisor : Prof. Fang He</i> Oct '18, 2019 - Present - Field Research and Development of Coral Nursery for the Restoration of the Coral Reef Ecosystem - Numerical and Experimental Study on the Interaction between a Novel Coral Nursery and Current - Risk Assessment, Zoning and Early Warning of Storm Hazard on Coral Reefs in China Study on Hydrodynamic and Wave Dissipation Characteristics of Permeable Breakwater with Oscillating Water Column Wave Energy Converter <i>Supervisor : Prof. Fang He</i> Sep '15, 2018 - Dec '15, 2019
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- Experimental Study on Hydrodynamic Characteristics and Oscillating Flow Field Characteristics of Oscillating Water Column Breakwater
- Physical Experiments and Numerical Simulations of Cylindrical Oscillating Water Column Wave Energy Converters

Evaluation and application of wave attenuation by vegetation based on neural network and laboratory study

Supervisor : Zhengyu Hu

Dec '1,2019 - Present

- Predicting Wave Attenuation by Vegetation Based on the Neural Network Algorithm
- Experimental Study on Wave Attenuation by Vegetation by Means of Particle Imaging Velocimetry
- Predicting Turbulent Kinetic Energy within Vegetation and Wave Attenuation by Vegetation Based on the Neural Network Algorithm

**WORK
EXPERIENCES**

Undergraduate Course - Port and Coastal Hydraulic Structures - Zhejiang University

Teaching Assistant

Mar '14,2019 - June '14,2020

- Provided tutoring to 60+ undergraduate students in experimental lessons
- Experimental lessons include *Interaction between Waves and Vertical Breakwater*, *Interaction between Waves and Sloping Breakwater*, *Interaction between Waves and Piles*

Undergraduate Thesis - Zhejiang University

Adviser

Dec '13, 2018 - June '15, 2020

- Designed experiments and outlines for three undergraduate students
- Undergraduate thesis topics include *Study on Wave Attenuation Characteristics of Coastal Vegetation* (2019), *Interaction between Vegetation and Unsteady Flows* (2020), *Experimental Study on Oscillating Flow Field of Oscillating Water Column Wave Energy Converter* (2020)

**LEADERSHIP
EXPERIENCES**

Students' Association Union - Zhejiang University

Vice President

Sep '15, 2018 - June '15, 2019

- Organized 10+ cultural and sports activities with average attendees of 200+ students
- Managed all of Students' Association and promoted them

**RESEARCH
SKILLS**

Laboratory: PIV, LDV, ADV, EMF, Wave gauge, Pressure sensor, Load cell, OQUS 6-DOF capture

Field observation: RBR for wave&tide , SeaGuard RCM for velocity

Numerical simulation: Mike21, Flow-3D, Star-ccm+

Research Tools: Python, Matlab, Origin IAT_EX, Solidworks, AutoCAD, Tecplot, ArcGIS, PS

**EXTRA
INTERESTS**

Deep Learning & Coastal Engineering

Basketball

Chinese Kung fu