

UM CEE PhD Position for Academic Year 2023/2024

Civil Engineering	
Research Topic 1	Intelligent construction and maintenance in geotechnical engineering
Research Topic 2	Physics informed machine learning methods in geotechnical engineering
Instructor	Wan-Huan ZHOU, Professor https://www.fst.um.edu.mo/people/hannahzhou/ https://scholar.google.com/citations?user=MevA6McAAAAJ
E-mail	umgeomech@gmail.com [Recruitment only]

Structural Engineering	
Research Topic 1	Mechanical and structural performances of structures additively manufactured (3D printed) with high performance materials
Research Topic 2	Advanced analysis and design for cold-formed metallic tubular members
Instructor	Wai-Meng Quach, Associate Professor https://www.fst.um.edu.mo/personal/wmquach/ https://scholar.google.com/citations?user=Pmt3IKwAAAAJ
E-mail	wmquach@um.edu.mo

Structural Engineering	
Research Topic 1	Structural Health Monitoring of Bridge Engineering
Research Topic 2	Railway Non-destructive Testing
Instructor	Wang-Ji Yan, Associate Professor https://scholar.google.com/citations?user=5Z_6aeMAAAAJ https://www.fst.um.edu.mo/personal/wangji-yan/home/
E-mail	wangjiyan@um.edu.mo

Environmental Engineering	
Research Topic 1	Real-time mass spectrometric characterization of atmospheric fine particle matter and volatile organic compounds
Research Topic 2	Aqueous-phase photolysis of atmospheric particulate organic matter and particle-phase reactions in single-levitated particles
Instructor	Yongjie Li, Associate Professor Post-doc, Harvard University; PhD, The Hong Kong University of Science and Technology (Environmental Engineering); BSc, Peking University (Chemistry) Main research interests include atmospheric chemistry, physicochemical property and chemical reactions https://www.fst.um.edu.mo/people/yongjieli/ https://www.fst.um.edu.mo/personal/yongjieli/
E-mail	yongjieli@um.edu.mo

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Civil Engineering	
Research Topic 1	Marine plankton ecology, primary production, algal blooms, red tides, interactions of bacteria, viruses and protists
Research Topic 2	Nutrient biogeochemical cycles, eutrophication, hypoxia
Instructor	Jie Xu, Associate Professor https://www.fst.um.edu.mo/personal/xujiest/
E-mail	xujiest@um.edu.mo

Civil Engineering	
Research Topic 1	Numerical simulation of flood hazards in an urban watershed
Research Topic 2	Integration of remotely-sensed data with numerical models
Instructor	Liang Gao, assistant professor, https://www.fst.um.edu.mo/personal/gaoliang/
E-mail	gaoliang@um.edu.mo

Ocean Science	
Research Topic 1	Circulation dynamics in the marginal seas
Research Topic 2	Water exchange and mass transport in estuary and adjacent shelf
Instructor	Zhongya Cai, https://www.fst.um.edu.mo/personal/zycai/
E-mail	zycai@um.edu.mo

Coastal Engineering	
Research Topic 1	Changes in the typhoon and storm surge affecting the Gong Dong-Hong Kong-Macao Greater Bay Area under climate change
Research Topic 2	Applications of machine learning methods to multi-scale solid-liquid two-phase flows (sediment transport)
Instructor	Huabin Shi, Assistant Professor https://www.fst.um.edu.mo/personal/huabinshi/ https://www.researchgate.net/profile/Huabin-Shi https://scholar.google.com/citations?user=G_S8FkoAAAAJ&hl=en
E-mail	HuabinShi@um.edu.mo

Geo-hydro Disaster Prevention	
Research Topic 1	Landslides mechanisms and intelligent survey and monitoring equipment
Research Topic 2	Compound flood risk assessment and Internet of Things for smart flood monitoring and forecasting in coastal cities
Instructor	Ping SHEN, Assistant Professor https://www.fst.um.edu.mo/en/staff/pingshen.html
E-mail	pingshen@um.edu.mo

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Geotechnical / Geological Engineering	
Research Topic 1	New digital monitoring tools and artificial intelligence in large-scale tunnel infrastructure and underground space
Research Topic 2	Geothermal infrastructure and underground hydrogen storage for low-carbon energy society
Instructor	Zili Li, Associate Professor https://scholar.google.com/citations?user=ki6D34gAAAAJ
E-mail	tongjilz@gmail.com or zili.li@mit.edu

Construction Management	
Research Topic 1	Human-robot collaboration in construction
Research Topic 2	Sustainability assessment of smart construction technology
Instructor	Mi Pan, Assistant Professor https://scholar.google.com.hk/citations?user=SqHkyEIAAAAJ
E-mail	panmi@connect.hku.hk