Postdoctoral Researcher in Geotechnical Engineering at SCUT (China), in Collaboration with UGA and NU (France)

We invite applications for a Postdoctoral Researcher position at the School of Marine Science and Engineering, South China University of Technology (SCUT), ranked #187 in the US News 2024 rankings. The successful candidate will join an innovative research project titled: "*Seismic Analysis of Offshore Wind Turbines Considering Soil-Foundation Interaction: Deterministic and Probabilistic Approach.*" This project is in collaboration with Grenoble Alpes University (UGA) and Nantes University (NU) in France. The position is full-time and offered for two years.

Join us and contribute to our exciting research journey !

Project Overview

This project aims to develop an effective and efficient computational tool for the seismic analysis of monopile-supported offshore wind turbines (OWTs) under multiple environmental loads, including waves, wind, and earthquakes, while considering the soil-pile interaction. The tool will be designed to capture the cyclic effects on the soil-pile interaction and account for the misalignment between different load directions. Once the tool is developed, a stochastic simulator will be constructed to incorporate random waves, winds, and seismic loads. The project will then conduct a probabilistic seismic analysis to assess the impact of uncertainties in seismic loadings and soil properties on the behavior of monopile-supported OWTs. This includes tracking the probability density functions evolution for key quantities of interest and generating fragility curves for the structure. The project is expected to advance knowledge in integrated seismic analysis of OWTs and contribute to improve the risk assessment under uncertain conditions.

Qualifications

▪ Required Qualifications

The mandatory qualifications that candidates must meet to be considered for the position are:
1. Legal Compliance: Candidates must comply with Chinese laws and regulations, be physically and mentally healthy, and have no criminal record,
2. Age Requirement: **Must be 35 years old or younger**,
3. Educational Background: Must hold a Ph.D. in Geotechnical Engineering, Civil Engineering, Geological Engineering, or a closely related field, **obtained within the last three years, or be on track to complete their Ph.D. soon**,
4. Commitment: Must be able to conduct a full-time postdoctoral research at SCUT,
5. Experience in numerical modelling in geotechnical engineering,
6. Experience with seismic analysis in geotechnical engineering,
7. Proficiency in programming with Python, MATLAB, or Fortran.

▪ Desired Qualifications

Possessing one or more of the following qualifications will be advantageous:
1. Familiarity with OpenFAST,
2. Rich experience with Plaxis, FLAC, or OpenSees,
3. Good knowledge of probabilistic analysis or uncertainty quantification,
4. Proven track record of publications.

Benefits

➢ Yearly Salary: 270,000 RMB (approximately 37,889 USD) to 350,000 RMB (approximately 49,116 USD), depending on education background and prior achievements,
➢ Performance Bonus: Available for outstanding performance and high-quality research outcomes (e.g., publications in high-impact journals),
➢ Research Start-up Funding: Discretionary research funds of 200,000 RMB (approx. 28,066 USD), offering full autonomy over academic and research space. These funds can be used for computer/equipment purchases, conference travel, and short academic visits to France, among other expenses,
➢ Accommodation: Comfortable, conveniently located apartments are available on the campus at low rental rates,
➢ Healthcare: The university provides public medical care and other welfare benefits.

Application Process

➢ Application Materials:
  1. CV (with a list of publications)
  2. 1-page cover letter (please explain how you fit to this position; please also clearly indicate in the letter that you meet the requirements for points 2 and 3 listed under 'Required Qualifications.')
➢ How to Apply: Email your application materials to Mr. Zhou at zhouyx@scut.edu.cn
➢ Deadline: Nov 27, 2024 (Only shortlisted candidates will be contacted)
➢ Starting date for the position: at the earliest convenience.

Supervisor Team

The postdoctoral researcher will work closely with Assoc. Prof. Xiangfeng Guo (SCUT, China, Email Address: xfguo18@scut.edu.cn), Prof. Daniel Dias (UGA, France) and Prof. Abdul-Hamid Soubra (NU, France).

About the University

➢ Working Location: Guangzhou International Campus of SCUT, Guangzhou/Canton, China
➢ University: SCUT is ranked #187 in the US News 2024 rankings and falls within the #101-150 range in the ARWU 2024 rankings. For more information, visit the website: https://www.scut.edu.cn/en/
➢ Guangzhou International Campus of SCUT: It is a state-of-the-art facility designed to enhance SCUT's international influence and research capabilities. The campus began enrolling graduate students in 2018 and undergraduate students in 2019. Most undergraduate courses are conducted in English. More details in this link: https://www2.scut.edu.cn/gzic_en/main.htm