

YADONG JIANG

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Dr Jamie Goggins
Civil Engineering
National University of Ireland, Galway
University Road
Galway, H91 TK33
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Dear Dr Goggins:

I am writing to apply for the MaREI-Blades postdoctoral researcher 1 position, which was announced on the NUIG website. As a PhD student majoring in Earthquake Engineering and Engineering Seismology at the University School for Advanced Studies IUSS Pavia, I have already past the doctoral defence and my expected graduation date is May 2018.

As a candidate, here are what I could immediately bring to the table:

Programming Skills: I have developed solid programming skills in Python during my post-graduate training. All the data and scientific plots of my PhD research were processed by Python scripts. In the meantime, I had created many productive tools based on Python, e.g. the genetic algorithm optimization tool, the response spectrum analyser, the CFST column designer (based on Eurocode 4). Besides the Python skills, I had experiences of developing uniaxial material of OpenSees based on C++, which can be useful when the development of the composite material model is required. My programming skills prepare me to further develop and test your in-house design and testing tools, BladeComp.

Numerical Modelling Skills: In my PhD research, I had developed the micromechanical models in Finite Element (FE) software ABAQUS to simulate the flexural behaviour of Concrete-Filled Steel Tubes (CFST) under quasi-static/dynamic loading. Additionally, the ductile fracture of the steel tube was considered during the analysis. Moreover, I used the Python scripts to automate the parametric study procedures, namely the input file generation, the analysis control and the analytical data extraction. I believe my modelling skills enable me to propose an accurate FE model for the tidal rotor blades.

Experience of Research Findings Presentation and Research Papers Authoring: I have authored and co-authored 11 journal or conference papers during my PhD career. Meantime, I have presented my research achievements orally in 6 international conferences and workshops. These experiences fully prepare me for any future report delivery and article authoring.

I believe that my research background, skills and experiences well qualify me for the postdoctoral researcher 1 position. My curriculum vitae is enclosed for your kind perusal. Thank you for your consideration and I look forward to hearing from you soon.

Sincerely,
Yadong Jiang
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