

Ka Ling WU

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Language: English (Fluent), Chinese (Native), French (B1), Spanish (A2)

Education

M.Sc. in Fluid and Thermal Sciences | August 2014 - May 2015 | Brown University, USA

- Cumulative GPA: 4.0/4.0
- Brown School of Engineering Master's Teaching Scholar and received Master's of Science Achievement Award

B.Sc. with Honor in Civil Engineering | August 2010 - May 2014 | Brown University, USA

- Cumulative GPA: 3.8/4.0
- Davis United World Scholar, American Chamber of Commerce Scholar and Chiaphua Engineering Scholar

Diploma in Civil Engineering Fundamentals | February - June 2013 | Universidad de Cantabria | Spain

- Cornell-Cantabria Exchange Program

Professional Experiences

Doctoral Researcher | Wind Engineering and Renewable Energy Laboratory (WIRE), Swiss Federal Institute of Technology in Lausanne (EPFL), Lausanne, Switzerland | August 2015 - Current

- Conducted Large Eddy Simulations (LES) to study the efficiency and performance of wind farms and the effects of their wakes on atmospheric boundary layer dynamics
- Analyzed wind farm LES data using MATLAB to investigate the effects of atmospheric thermal stability on the performance of wind farms

Scientific Researcher, Hydrofoil Energy Project Funded by the US Department of Energy | Computational Fluid Laboratory | Brown University, Providence, USA | May 2014 - June 2015

- Created unstructured moving mesh to model oscillating hydrofoils in water using MATLAB, OpenFOAM and GMSH
- Studied the power production of oscillating hydrofoils, provided modeling data and power production prediction to the hydrofoil design team and business development team

Business Development Intern | Louis Berger Group, Santander, Spain | June - July 2013

- Identified new clients, explored potential projects and analyzed public biddings, with a focus in the renewable energy industry
- Analyzed and integrated project data from the recently acquired company Grupo APIA XXI into the Louis Berger project database
- Prepared business proposals, project presentation and technical references for the Chief Business Developer Officer

Technology Consulting Intern | Deloitte Touche Tohmatsu Ltd., Hong Kong, China | January - February 2013

- Conducted feasibility study for Building Department on public electronic form submission service and BIM technology
- Evaluated technical solutions, including e-Form, LiveCycle and InfoPath for the public electronic form submission service
- Researched the application of BIM technology and the automation of building code checking in Singapore

Sustainable Design and Facade Engineering Intern | Inhabit Group | Hong Kong, China | June 2012 - August 2012

- Collaborated with the Australian Office, researched international Green Rating Systems: Beam+, Greenstar, LEED and Pearl
- Constructed a database and calculated the Green Credits awarded to responsible projects under different Green Rating Systems
- Assisted Projects' Daylight Shading Analysis using Ecotect Analysis software and Building Structural Analysis

Skills & Abilities

Business: Project management, Big Data Analytics, Financial and Managerial Accounting, Cash Flow Modelling, Business Plan for Renewable Energy Project

Computer skills: MS Office Suite, MATLAB, C++, Fortran, AutoCAD, COMSOL, SAP2000, Java, Linux, Mac OS and Windows

Soft skills: Fast learner, good team player, effective communicator, self initiator

Certificate: Engineer-In-Training Certification, USA, 2015

Hobbies & Interests: Rugby (4 years), currently on the roster of the Swiss Women's 7s and 15s National Team. Crossfit (1.5 years)

Language

English: fluent, TOEFL 109/120. **Chinese:** native in Cantonese, fluent in Mandarin. **French:** B1, attending courses. **Spanish:** A2.

Publications

Journal Articles

K.L. Wu and F. Porté-Agel. Flow Adjustment Inside and Around Large Finite-Size Wind Farms. *Energies*, 10.12 (2017): 2164.

J.T.C. Liu, M.E. Fuller, **K.L. Wu**, A. Czulak, A.G. Kithes, C.J. Felten. Nanofluid flow and heat transfer in boundary layers at small nanoparticle volume fraction: Zero nanoparticle flux at solid wall. *Archives of Mechanics*, pp. 75-1000, Vol 69, No. 1 (2017).

E. Barlas, **K.L. Wu**, W.J. Zhu, F. Porté-Agel and W.Z. Shen. Variability of Wind Turbine Noise over a Diurnal Cycle. *Renewable Energy* (submitted).

Conference Presentations

K.L. Wu and F. Porté-Agel. Flow Adjustment Inside Large Finite-Size Wind Farms Approaching the Infinite Wind Farm Regime. EGU General Assembly, Vienna, Austria, 2017.

K.L. Wu and F. Porté-Agel. Large-Eddy Simulation of the Wake Flow Inside and Downwind of a Large Finite-Size Wind Farm. 22nd Symposium on Boundary Layers and Turbulence, Salt Lake City, UT, USA, 2016.

K.L. Wu and F. Porté-Agel. Effect of Large Finite-Size Wind Farms and Their Wakes on Atmospheric Boundary Layer Dynamics. EGU General Assembly, Vienna, Austria, 2016.

J. Franck and **K.L. Wu**. Simulation of an Oscillating Hydrofoil near Boundaries. 67th Annual Meeting of the APS Division of Fluid Dynamics, San Francisco, CA, USA, 2014

Theses

K.L. Wu. Simulation of an Oscillating Hydrofoil near Boundaries. Master of Science Thesis, Brown University, Providence, RI, USA, 2015

K.L. Wu. A Moving Mesh Approach for Flow Simulations of an Oscillating Hydrofoil. Bachelor of Science Honor Thesis, Brown University, Providence, RI, USA, 2014