Zhiwei Peng

Beijing Computational Science Research Center
10 East Xibeiwang Road, Beijing 100193, China
+86 150 1046 5703
zhiwei.peng91@gmail.com
web page: http://zhiwei-peng.com/

EDUCATION

University of British Columbia — Vancouver, BC
M.A.Sc., Mechanical Engineering — *Sep 2014-May 2016*

- GPA: 3.9/4.0, member of the **Institute of Applied Mathematics**.
- Coursework included Partial Differential Equations, Perturbation Methods, Fluid Mechanics, *etc.*
- Co-supervised by Prof. Gwynn Elfring (UBC) and Prof. On Shun Pak (Santa Clara University, USA)
- Research and publications available on my web page.

Beijing University of Aeronautics & Astronautics, also known as Beihang University — Beijing, China
B.S., Thermal Energy and Power Engineering — *Sep 2010-Jun 2014*

- GPA: 3.8/4.0, ranking top 5% (189 students), *Outstanding Thesis Award*
- Coursework included Fluid Mechanics, Theoretical Mechanics, Probability & Statistics, and **88** more.

B.S., Applied Mathematics, dual degree — *Sep 2011-Jun 2014*

- GPA: 3.88/4.0, coursework included Ordinary Differential Equations, Differential Geometry, Numerical Analysis, Mathematical Modelling, Functional Analysis, *etc.*

ACADEMIC EXPERIENCE

Beijing Computational Science Research Center — Beijing, China
Visiting researcher, advisor: Prof. Yang Ding — *Sep 2016-present*

- Theoretical and numerical study of biological locomotion in Newtonian and complex media

University of British Columbia — Vancouver, BC
Graduate Research Assistant — *Sep 2014-Sep 2016*

- Mathematical modelling and analytical solution of biological locomotion and fluid-structure interaction problems
- Developed and incorporated numerical methods to solve nonlinear problems

Teaching Assistant, MECH/MATH 358: Engineering Analysis, 4 hrs/week — *Jan 2016-Apr 2016*

- Taught lab sessions on implementing algorithms in Matlab to solve Differential Equations.
- Created exercises and solutions, evaluated student performance.

Ecole Nationale de l'Aviation Civile — Toulouse, France
Exchange student — *Sep 2013-Feb 2014*

- Master's course in International Air Transport Operations Management
- Coursework included Flight Mechanics, Operations Research, Convex Optimization, Econometrics, *etc.*
- BUAA excellent undergrad exchange program, fully supported by the **China Scholarship Council**

SKILLS & INTERESTS

- Proficient in numerical simulation and data visualization with **Python** & **Matlab**, symbolic computation with **Mathematica**, experience with the **C/C++** programming languages
- Proficient in English (IELTS: 8 as of 2014), native in Mandarin Chinese

SELECTED HONORS & AWARDS

- Graduate Support Initiative (GSI) Award, UBC *Feb 2015*
- International Tuition Award, UBC *2014-2016*
- 2nd Prize, 3rd National Mathematics Contest (for university students) *2011*
- BUAA Mathematics Contest, ranking 7/1500 *2012*
- The President Scholarship, 1/189 *2012*
- The Baogang Scholarship, 1/189 *2012*
- The Excellent Student Award *2010-2014*
- The First Class Scholarship *2012*

PUBLICATIONS

1. **Z. Peng**, O.S. Pak and G.J. Elfring, Characteristics of undulatory locomotion in granular media, Physics of Fluids, 28, 031901 (2016)
   - featured in the CSME (Canadian Society of Mechanical Engineering) magazine research highlights

2. **Z. Peng**, G.J. Elfring and O.S. Pak, Propulsive thrust of a driven filament at low Reynolds number with non-uniform flexibility, 24th ICTAM, Montréal, Canada, August 21-26, 2016

3. **Z. Peng**, G.J. Elfring and O.S. Pak, Maximizing propulsive thrust of a driven filament at low Reynolds number via variable flexibility, *submitted* to Soft Matter

CONFERENCE PRESENTATIONS

- **Z. Peng**, G.J. Elfring and O.S. Pak, Maximizing the propulsive thrust of a driven filament at low Reynolds number through non-uniform flexibility, 69th APS DFD
- **Z. Peng**, O.S. Pak and G.J. Elfring, Characterization of undulatory locomotion in granular media, 68th Annual Meeting of the APS DFD, Boston, MA, USA, November 22-24, 2015

underline denotes the speaker
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