Jiarong Wu

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Education

Princeton University — Princeton, NJ
Ph.D. in Fluid Mechanics, Advisor: Luc Deike, GPA: 3.82/4 — 2018–Current

Boulder Summer School for Condensed Matter and Materials Physics — Boulder, CO
Hydrodynamics Across Scales — July 4-29, 2022

Tsinghua University — Beijing, China
B.S. in Mechanical Engineering, GPA: 90.4/100 — 2014–2018

Research Experience

Princeton University — Princeton, NJ
Graduate research assistant advised by Prof. Luc Deike — 2018–current

- Study of ocean surface wave dynamics using high fidelity numerical simulations

Tsinghua University, State Key Laboratory of Hydroscience and Engineering — Beijing
Undergraduate research assistant, senior thesis advised by Prof. Shuhong Liu — 2017–2018

- Study of cavitation around a bionic hydrofoil with leading-edge tubercles in high speed water tunnel

Publications

1. **J. Wu** and L. Deike (2021), "Wind wave growth in the viscous regime", Physics Review Fluids.
2. **J. Wu**, S. Popinet, and L. Deike (2022), "Revisiting wind wave growth with fully-coupled direct numerical simulations", Journal of Fluid Mechanics. In press.
3. **J. Wu**, S. Popinet, and L. Deike, "Breaking wave field statistics with a multilayer numerical framework". In prep.

Scholarships and Awards

- School of Engineering and Applied Science Award for Excellence — 2022
- MAE Britt and Eli Harari Fellowship — 2021
- Mary and Randall Hack '69 Graduate Award for Water and the Environment — 2021
- MAE Second Year Fellowship — 2019
- Tsinghua Alumni Scholarship for outstanding academic performance — 2015–2017

Teaching and Mentoring

- **Teaching Assistant** at Princeton University — Fall 2020/2021
  MAE501 Mathematical Methods of Engineering Analysis I
- **Undergrad research mentoring** at Princeton University
  - Lucy Madden, PRISM Summer Program, Summer 2021
  - Sonika Bagchi, Princeton Physics Department Junior Paper, Fall 2021
- **Counselor** at Research Science Initiative science summer camp at Tsinghua University — Summer 2015

Service and Volunteering

- Member of MAE Climate and Inclusion Committee — 2019–2022
- Volunteer at weekly help sessions of Princeton Research Computing (PICSciE) — 2022
  Providing technical supports on software engineering, cluster usage, and visualization related questions.

Talks and Presentations

1. **J. Wu**, S. Popinet, and L. Deike, "Revisiting wind wave growth with fully-coupled direct numerical simulations", WISE Meeting, Brest, France, 2022

2. **J. Wu**, S. Popinet, and L. Deike, "Fully coupled wind-wave growth: a numerical study", AGU Ocean Sciences Meeting, virtual, 2022

3. **J. Wu** and L. Deike, "Direct Numerical Simulation of Surface Waves and Turbulent Boundary Layer Interaction", APS Division of Fluid Dynamics Meeting, Phoenix, AZ, 2021

4. **J. Wu**, "Numerical Investigation of Wind-wave Interaction ", MAE Research Day, Princeton, 2021

5. **J. Wu** and L. Deike, "Numerical Investigation of Wind-wave Interaction ", 25th International Congress of Theoretical and Applied Mechanics, virtual, 2021

6. **J. Wu** and L. Deike, "Parameterization of Wind Wave Growth Rate, a Direct Numerical Simulation Study", AGU Ocean Sciences Meeting, San Diego, CA, 2020

7. **J. Wu** and L. Deike, "Direct Numerical Simulation of Wind Wave Growth", APS Division of Fluid Dynamics Meeting, Seattle, WA, 2019