# Jiaxuan Lio

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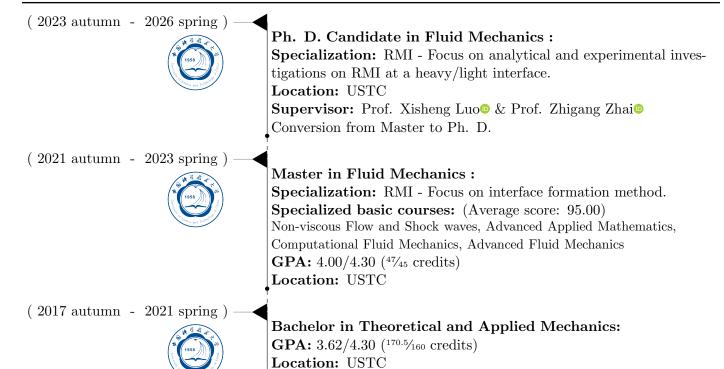
RG: https://www.researchgate.net/profile/Jiaxuan\_Li39



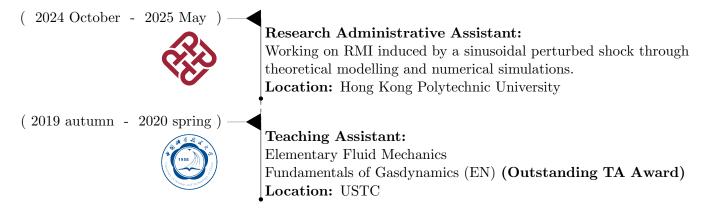
## **Profile**

Ph. D. candidate with an educational background in fluid mechanics from University of Science and Technology of China (USTC). My current research focuses on theoretical and experimental investigations into Richtmyer-Meshkov instability (RMI). I have proposed a new method of forming interfaces for studies of shock-interface interaction by using a super-hydrophobic-oleophobic surface to constrain the soap film. I am experienced in investigating the effects of compressibility, mode coupling, and convergent geometry on RMI at a heavy/light interface.

#### Education



## Work experience



## Languages

• Chinese: Primary language

• English: Secondary language, fluent

#### **Publications**

#### Articles:

- 1. **Jiaxuan Li**, Qing Cao, He Wang, Zhigang Zhai, Xisheng Luo. New interface formation method for shock-interface interaction studies, *Exp. Fluids*, 64(11): 170, 2023. http://www.doi.org/10.1007/s00348-023-03710-y
- 2. **Jiaxuan Li**, Chenren Chen, Zhigang Zhai, Xisheng Luo. Asymptotic matching modal theory and experiments on Richtmyer-Meshkov instability. *J. Fluid Mech.*, 1002, A16, 2025. http://www.doi.org/10.1017/jfm.2024.1125
- 3. **Jiaxuan Li**, He Wang, Zhigang Zhai, Xisheng Luo. Richtmyer–Meshkov instability of a single-mode heavy–light interface in cylindrical geometry, *Phys. Fluids*, 35, 106112, 2023. http://www.doi.org/10.1063/5.0207779
- 4. **Jiaxuan Li**, Chenren Chen, Zhigang Zhai, Xisheng Luo. Effects of compressibility on Richtmyer-Meshkov instability of heavy/light interface. *Phys. Fluids*, 36, 056104, 2024. http://www.doi.org/10.1063/5.0167248
- 5. Qing Cao, **Jiaxuan Li**, He Wang, Zhigang Zhai, Xisheng Luo. Coupled Richtmyer-Meshkov and Kelvin-Helmholtz instability on a shock-accelerated inclined single-mode interface, *J. Fluid. Mech.*, 996, A37, 2024. http://www.doi.org/10.1017/jfm.2024.710
- Chenren Chen, Jiaxuan Li, He Wang, Zhigang Zhai, Xisheng Luo. Effects of disturbed transmitted shock and interface coupling on heavy gas layer evolution, *Phys. Fluids*, 36, 086108, 2024. http://www.doi.org/10.1063/5.0215839
- 7. Chenren Chen, **Jiaxuan Li**, He Wang, Zhigang Zhai, and Xisheng Luo. Attenuation of Richtmyer-Meshkov instability growth of fluid layer via double shock, *Sci. China-Phys. Mech. Astron.* 68, 244711, 2025. http://www.doi.org/10.1007/s11433-024-2592-5
- 8. Yinuo Xing, Chenren Chen, **Jiaxuan Li**, He Wang, Zhigang Zhai, and Xisheng Luo. Atwood-number dependence of the Richtmyer-Meshkov instability at a heavy-light single-mode interface, *J. Fluid. Mech.* 1007, A54, 2025 http://dx.doi.org/10.1017/jfm.2025.107
- 9. **Jiaxuan Li**, Zhigang Zhai. Modelling and mechanism of non-standard Richtmyer-Meshkov instability, *J. Fluid Mech.*, (Major Revision)

#### Conferences:

- 1. **Jiaxuan Li**, He Wang, Zhigang Zhai, Xisheng Luo. Convergent Richtmyer-Meshkov instability on a heavy/light interface. The 34<sup>th</sup> International Symposium on Shock Waves, 2023, Korea.
- 2. **Jiaxuan Li**, Chenren Chen, Zhigang Zhai, Xisheng Luo. On mode coupling of RM instability at a heavy/light interface. The 21<sup>st</sup> Chinese National Conference on Shock Waves and Shock Tubes, 2024, Taiyuan, Shanxi, China. (Excellent paper award)
- 3. **Jiaxuan Li**, Zhigang Zhai, Chih-yung Wen, Xisheng Luo. Analytical and numerical investigations on non-standard RMI attenuation at a hravy/light interface. The 35<sup>th</sup> International Symposium on Shock Waves, 2025, Australia.

#### Other Skills

Skilled operation of common office software;

Skilled application of scientific computing software such as Matlab, Mathematica;

Skilled use of Origin, Tecplot and other data processing software; operation of LaTeX;

Skilled in schlieren and shock tube experiments.