

Chenyang Huang

☎ +86 132-6268-5518

✉ huangchenyang@sjtu.edu.cn

🌐 cyhuang514.github.io

EDUCATION

Shanghai Jiao Tong University

Shanghai, China

M.Eng. in Naval Architecture and Ocean Engineering

Sep 2020 - Mar 2023

- GPA: 3.88/4.00
- Teaching assistant for the course *Introduction to Marine Hydrodynamics*

Shanghai Jiao Tong University

Shanghai, China

B.Eng. in Naval Architecture and Ocean Engineering

Sep 2016 - Jun 2020

- GPA: 3.95/4.30; Ranking: 1/56

RESEARCH EXPERIENCES

Lagrangian Coherent Structures in Flow Past a Backward-Facing Step

Sep 2021 - Jul 2022

- Performed direct numerical simulation of flow past a backward-facing step in a duct using OpenFOAM
- Uncovered the underlying flow structures by complementary qualitative and quantitative LCS analyses
- Investigated the interaction between hyperbolic and elliptic structures

Immersed Boundary Method and Applications

Mar 2021 - Mar 2022

- Employed a rotationally oscillating cylinder with an attached flexible filament to approximate tadpole locomotion
- Developed computational models to simulate this low-Reynolds-number flow based on different immersed boundary frameworks using IBAMR
- Studied the influence of head swing frequency and tail flexibility on the performance of tadpole propulsion

Flow Analysis Based on Lagrangian Coherent Structures

Jan 2020 - Jun 2020

- Conducted direct numerical simulations of lid-driven cavity flow and pitzDaily flow at different Reynolds numbers
- Extracted Lagrangian coherent structures based on both heuristic and analytical methods
- Analyzed physical mechanisms behind these two flows from the Lagrangian perspective

Flow and Magnetic Structures in a Kinematic ABC-Dynamo

Sep 2019 - Dec 2019

- Explored the relationship between the flow skeleton structures and the stagnation points of ABC-flow
- Visualized their evolutions in the parameter space of ABC-flow through 100 simulations

PUBLICATIONS

- [1] **Chenyang Huang**, Alistair G.L. Borthwick, and Zhiliang Lin. Lagrangian coherent structures in flow past a backward-facing step. *Journal of Fluid Mechanics*, 947:A4, 2022.
- [2] Tao Zhang, ZhiLiang Lin, **Chenyang Huang**, and Alistair G.L. Borthwick. Flow and magnetic structures in a kinematic ABC-dynamo. *Science China Physics, Mechanics & Astronomy*, 63(8):1–6, 2020.

HONORS AND AWARDS

National Scholarship for Graduate Student	Sep 2022
2nd prize in the 17th China Post-Graduate Mathematical Contest in Modeling	Oct 2020
Outstanding Graduate of Shanghai Jiao Tong University	Jun 2020
National Scholarship for Undergraduate Student	Sep 2019
Meritorious Winner of Mathematical Contest in Modeling	Apr 2019

TECHNICAL SKILLS

Programming Languages: C++, MATLAB, Shell script, \LaTeX

Open-source Software: OpenFOAM, IBAMR