

Boyuan Yu

E-mail: boyuan.yu@mail.mcgill.ca * *Telephone number:* +1 438-728-8285

Website: [Boyuan Yu's homepage](#)

Education

PhD degree in Civil Engineering

PhD degree program

CGPA: 4.00/4.00.

Thesis title: TBD.

McGill University

September 2020 - May 2024

Master's degree in Civil Engineering

Master's degree program

CGPA: 3.96/4.00.

Thesis title: Transverse shear instability in steep open-channel flow, [Link](#).

McGill University

September 2018 - May 2020

Bachelor's degree in Water Conservancy and Hydropower Engineering

Bachelor's degree program

CGPA: 4.80/5.00.

Ranking: 1/155.

Hohai University

September 2014 - May 2018

Peer-Reviewed Publications

1. **Boyuan Yu**, and Vincent H. Chu,
The front runner in roll waves produced by local disturbances,
J. Fluid Mech., 932, A42 (2022) [18 pages];
DOI:[10.1017/jfm.2021.1011](https://doi.org/10.1017/jfm.2021.1011).
2. **Boyuan Yu**, and Vincent H. Chu,
Impact force of roll waves against obstacles,
J. Fluid Mech., 969, A31 (2023) [25 pages];
DOI: [10.1017/jfm.2023.580](https://doi.org/10.1017/jfm.2023.580).
3. **Boyuan Yu**, and Vincent H. Chu,
Impact Force of Roll Waves on Mudflow Modelled as Power-law Fluids,
In prep.
4. **Boyuan Yu**, and Vincent H. Chu,
Roll Waves in Mudflow Modelled as Herschel-Bulkley Fluids Initiated by Periodic and Localized Disturbance,
In prep.
5. **Boyuan Yu**, and Vincent H. Chu,
Wave and bed-friction effect on instability of shear flow in shallow waters,
River Flow 2020 Conference, 2020 [8 pages];
DOI: [10.1201/b22619-12](https://doi.org/10.1201/b22619-12).
6. **Boyuan Yu**, and Vincent H. Chu,
Impact force of the roll waves produced by local disturbances,
the 39th IAHR World Congress, 2022 [10 pages];
DOI: [10.3850/IAHR-39WC2521711920221273](https://doi.org/10.3850/IAHR-39WC2521711920221273).
7. **Boyuan Yu**, and Vincent H. Chu,
Roll Waves on a Laminar Sheet Flow produced by Local Disturbance,
River Flow 2022 Conference, 2022 [8 pages].

8. **Boyuan Yu**, and Vincent H. Chu,
Impact of Mud Flow Instabilities on Hydraulic Structures,
River Flow 2022 Conference, 2022 [9 pages].
9. **Boyuan Yu**, and Vincent H. Chu,
The Impact of Flood Waves on Hydraulic Structures,
River Flow 2022 Conference, 2022 [8 pages].

Talks and Presentations

1. **Boyuan Yu**, and Vincent H. Chu,
The video animation related to the conference paper *Impact of Mud Flow Instabilities on Hydraulic Structures*,
River Flow 2022 Conference Best Video Contest, 2022.

Teaching and Mentoring

Teaching Assistant
McGill University

September 2019 - May 2024
Montreal, Canada

- CIVE 281: Analytical Mechanics.
- CIVE 327: Fluid Mechanics and Hydraulics.
- CIVE 572: Computational Hydraulics.

Awards

2022	Graduate Excellence Award in Engineering , McGill University.
2019	Graduate Excellence Award in Civil Engineering and Applied Mechanics , McGill University.
2018	Outstanding Graduate Student , Hohai University, top 5% of the graduate students.
2015	National Scholarship , Hohai University, the yearly most outstanding student of the department.
...	... and more ...

Research Interests

- Hydrodynamic instabilities.
- Shallow water equations.
- Finite volume method.
- Riemann solvers.
- Roll waves and shear instabilities.
- Multiphase flow.
- Non-Newtonian fluids.
- Multilayer models.
- Open-source CFD.

Technical Skills

Programming Languages/Tools

Numerical models for CFD

Postprocessing tools for CFD

Text processing

Operating system

Video editing

Matlab, Mathematica, Python, C, Fortran, Julia

Basilisk, Gerris, OpenFOAM, Clawpack, Centpy

Tecplot, Paraview, OriginLab

L^AT_EX, Microsoft Word, Markdown & Obsidian

Windows, Linux

Kdenlive