Rundong Zhou
Curriculum Vitae

Contact Information
Email: rundongz@chalmers.se **Phone:** +46 734809317
Website: rundong-zhou.github.io

Research Interests
Computational physics, Complex fluid, Dynamical systems, Numerical Analysis, Spectral methods, Physical oceanography and Atmospheric Sciences

EDUCATION

Candidate for **Master of Science** expected 2024
Major in Complex Adaptive Systems cGPA 5/5
Chalmers University of Technology Gothenburg, Sweden

Bachelor of Applied Science in Engineering Science 2021
Major in Engineering Physics cGPA 3.28/4
University of Toronto Toronto, Canada

LIST OF PUBLICATION

Zhou, R. and Grisouard, N. *Spectral solver for Cauchy problems in polar coordinates using discrete Hankel transforms.* Preprint. Submission Pending. arXiv:2210.09736

HONOURS AND AWARDS

Avancez Scholarship 2022
Chalmers University of Technology
- 75% tuition fee reduction.

Undergraduate Research Fellowship 2018
Canadian Institute for Theoretical Astrophysics
- C$ 2000 per month for four months.

Dean's Honor List 2015 Fall, 2016 Fall
University of Toronto 2020 Fall, 2021 Winter
- Pass with honor, >80% average.

RESEARCH EXPERIENCE

Undergraduate Thesis September 2020 - April 2021
Department of Physics, University of Toronto Toronto, Canada
Supervisor: Prof. Nicolas Grisouard

- Developing a novel spectral method for solving the Gross-Pitaevskii equation for Bose-Einstein condensates in polar coordinates. Experience with computational physics.

Research Assistant[1] April 2021 - October 2022
Department of Physics, University of Toronto
Supervisor: Prof. Nicolas Grisouard

- Applying the novel Fourier-Bessel based spectral method using the discrete Hankel transform to more general problems. Error analysis and validation of the method. Experience with numerical analysis and spectral theorems.

Summer Undergraduate Research Program May - September 2018
Canadian Institute for Theoretical Astrophysics Toronto, Canada
Supervisor: Prof. Norm Murray

- Experience with data analysis on Galactic Legacy Infrared Midplane Survey Extraordinaire (GLIMPSE) database.

Research Assistant January - April 2022
Department of Mechanical Engineering, University of Ottawa
Supervisor: Prof. Natalie Baddour

- Developing a new type of 2-D discrete Fourier transform in polar coordinates using Dini series. Validating the discrete orthogonality relation with Hankel-Scaffidi integral. Experiences with complex analysis.

PROFESSIONAL EXPERIENCE

Intern Technical Interpreter October - December 2019
Baoshan Iron & Steel Co., Ltd., and PMC-Colinet Industries Shanghai, China
Supervisor: Marcello Mameli

- English and Mandarin. RPP07-3 CNC Pipe Finishing Machine bearing replacement and refurbishment project at Baoshan Iron & Steel Co., Ltd..

[1] As the continuation of undergraduate thesis.