PERSONAL INFORMATION	Born in 1992 in Shanghai, China
RESEARCH INTERESTS	Theoretical and computational astrophysics, with particular interest in plasma astrophysics of stars, galaxies, accretion engines, and astrophysical turbulence

EDUCATION

M.A. and Ph.D. in Theoretical Astrophysics.   2015-2020
University of Rochester (Horton Fellowship). Doctoral dissertation: *New Perspectives on Mean-field Theories of Astrophysical Dynamos and Accretion Disks.*
B.S. in Physics.   2011-2015
Fudan University. Diploma thesis: *Holographic Entropy in Topological Massive Gravity.*

PROFESSIONAL APPOINTMENTS

Siyuan Postdoctoral Fellowship, TDLI, SJTU   2022-present
Nordita Postdoc Fellowship, Nordita   2020-2022

ACADEMIC ACTIVITIES

Co-organizer of Nordita Winter School 2022 - Waves in Astrophysics, Nordita   2022
Undergraduate research at Fudan University   2014-2015
- Holographic entropy in a topologically massive gravity theory. Supervisor: Lingyan Hung, Ph.D.
- Laboratory work on electron-beam evaporation sources. Supervisor: Donglai Feng, Ph.D.

FELLOWSHIPS AND AWARDS

Overseas Talent Introduction Program   2022-2025

University of Rochester
- Horton Fellowship, Laboratory for Laser Energetics   2017-2020
- Okubo Prize (for 1st place in the graduate written comprehensive examination)   2017

Fudan University
- Honors Student Award in Physics,   2015
  National Top Talent Undergraduate Training Program
- Second Prize of the Scholarship for Outstanding Students   2012-2014
- Scholarship for Freshman   2011

COMPUTER PROGRAMMING

- **Pencil Code**: Developer and code Owner.
- Frequently use: Mathematica, Fortran, Python, C++.

GRANTS

- General funding from the China Postdoctoral Science Foundation   2023-2024

SELECTED PRESENTATIONS

- The 2nd Geophysics and Astrophysics Fluid Dynamics Science Symposium, SHAO   May 2024
  Large-scale dynamos and variabilities in thin accretion disks
- The 32nd Texas Symposium on Relativistic Astrophysics, Shanghai, China   December 2023
  Helical and non-helical large-scale dynamos in thin accretion disks
- University of Graz, Graz, Austria   September 2023
  Pencil Code User Meeting 2023
  Helical and nonhelical large-scale dynamos in thin accretion disks
- Institute for Advanced Study, Tsinghua University   March 2023
  New perspectives on the shear dynamo problem
- Nordita   June 2022
  Program: Magnetic field evolution in low density or strongly stratified plasmas
  Scaling of the Saffman helicity integral in decaying magnetically-dominated turbulence
- Nordita   May 2021
  Pencil Code User Meeting 2021
  On the shear-current effect: toward understanding why theories and simulations have mutually and separately conflicted

- Nordita   September 2020
  Nordita Astrophysics Seminar
  Precision of mean-field theories in Astrophysics with applications to dynamos and accretion disks
- Center for Computational Astrophysics, Flatiron Institute   August 2019
  Summer School 2019: Multiscale Modeling of Astrophysical and Space Plasmas
  Minimal-energy state in accretion disk coronae and towards a holistic accretion model
- University of Rochester   February 2019
  3rd Annual Graduate Student Research Meeting
  Astrophysical dynamos

REFEREED
PUBLICATIONS

11. **Zhou, H.** and Jingade, N., 2024. Correlation times of velocity and kinetic helicity fluctuations in nonhelical hydrodynamic turbulence. *arXiv-eprints*, page arXiv:2401.15860. Submitted to *Journal of Fluid Mechanics*

10. **Zhou, H.** and Blackman, E. G., 2024. Helical dynamo growth and saturation at modest versus extreme magnetic Reynolds numbers. *Physical Review E 109, 015206.*

9. **Zhou, H.**, 2024. Helical and nonhelical large-scale dynamos in thin accretion discs. *Monthly Notices of the Royal Astronomical Society, 527(2), pp.3018–3028.*

8. Brandenburg, A., **Zhou, H.**, and Sharma, R., 2022. Batchelor, Saffman, and Kazantsev spectra in galactic small-scale dynamos. *Monthly Notices of the Royal Astronomical Society, 518(3), pp.3312–3325.*

7. **Zhou, H.**, Sharma, R., and Brandenburg, A., 2022. Scaling of the Saffman helicity integral in decaying magnetically-dominated turbulence. *Journal of Plasma Physics, 88, p. 905880602.*

6. **Zhou, H.** and Blackman, E. G., 2021. On the shear-current effect: toward understanding why theories and simulations have mutually and separately conflicted. *Monthly Notices of the Royal Astronomical Society, 507(4), pp.5732–5746.*

5. **Zhou, H.** and Blackman, E. G., 2021. Influence of inhomogeneous stochasticity on the falsifiability of mean-field theories and examples from accretion disc modeling. *Monthly Notices of the Royal Astronomical Society, 507(2), pp.2735–2743.*

4. **Zhou, H.** and Blackman, E. G., 2018. Calculating turbulent transport tensors by averaging single-plume dynamics and application to dynamos. *Monthly Notices of the Royal Astronomical Society: Letters, 483(1), pp.L104-L108.*

3. **Zhou, H.**, Blackman, E. G. and Chamandy, L., 2018. Derivation and precision of mean field electrodynamics with mesoscale fluctuations. *Journal of Plasma Physics, 84(3), p. 735840302.* Selected by the Editorial Board of the JPP as one of the "Featured Articles".

2. **Zhou, H.** and Blackman, E. G., 2017. Some consequences of shear on galactic dynamos with helicity fluxes. *Monthly Notices of the Royal Astronomical Society, 469(2), pp.1466-1475.*

1. Cheng, L., Hung, L. Y., Liu, S. N. and **Zhou, H.Z.**, 2016. First law of entanglement entropy in topologically massive gravity. *Physical Review D, 94(6), p.064063.*

OTHER
ARCHIVED
PUBLICATIONS

1. **Zhou, H.** and Blackman, E. G., 2019. Generalized quenching of large-scale dynamos for helical and non-helical flows. *arXiv-eprints*, page arXiv:1905.01256.

REFEREEING   Monthly Notices of the Royal Astronomical Society, the Astrophysical Journal, Astronomy & Astrophysics, Galaxies, Journal of Plasma Physics