

Education

09.2022– **BSc in Physics.**
Present *School of Physics, Peking University, Beijing, China.*

Research Interests

Currently, I am working on non-equilibrium many-body dynamics, with a particular focus on classical systems, and intending to extend my research to Quantum systems in the future. My research interests also include quantum computation, quantum information, open quantum systems, and any fascinating topic in statistical mechanics, classical mechanics, and quantum mechanics.

Research Experience

- 11.2023– **Research Assistant**, Supervisor: Prof. Hongzheng Zhao.
Present *School of Physics, Peking University, Beijing, China.*
Exploring intriguing phenomenon in non-equilibrium many-body physics.
- Floquet-engineered Emergent Massive Nambu-Goldstone Modes
 - Investigating emergent symmetries and engineering the resulting Nambu-Goldstone quasiparticles in non-equilibrium many-body systems.
 - Developing a general framework to implement massive Nambu-Goldstone quasiparticles in driven many-body systems by embedding a Lie group structure into the effective Hamiltonian.
 - Verifying our theoretical framework in a classical many-body spin system and applying it framework to a quantum spin-1/2 system.
 - Floquet Superheating
 - to be added
- 07.2025– **Research Intern**, Supervisor: Dr. Marin Bukov.
09.2025 *Max Planck Institute for the Physics of Complex Systems, Dresden, Germany.*
Selected as a fully funded intership offered to fewer than 10 undergraduates worldwide.
- Classical Geometric Floquet Theory
 - to be added

Publications

- 07.2025 **Floquet-engineered Emergent Massive Nambu-Goldstone Modes.**
Yang Hou, Zhanpeng Fu, Roderich Moessner, Marin Bukov, Hongzheng Zhao.
Phys. Rev. B **112**, L020305 (2025).
- 07.2025 **Floquet Superheating.**
Yang Hou, Andrea Pizzi, Huike Jin, Johannes Knolle, Roderich Moessner, Hongzheng Zhao.

Selected Awards

- 04.2025 **Zhong Shengbiao Graduate Academic Forum**, School of Physics, Peking University.
\$300; Sole undergraduate among 133; Second Prize for academic presentation (Top 16).
- 05.2025 **Xingcheng Undergraduate Academic Forum**, School of Physics, Peking University.
\$1k; 1st place in academic presentation; awarded First Prize & Best Presentation.

- 10.2024 **Beijing Natural Science Foundation Undergraduate “Qiyao” Program**, Beijing, China.
\$7k Grant; awarded to 100 students selected from all undergraduate students at Peking University to support their original research.
- 09.2022 **Peking University Freshmen Scholarship**, Peking University.
\$1.4k; awarded to top 10% freshmen students across Peking University.

Academic Activities

Talks

- 08.2025 **Condensed Matter Division Internal Seminar**, Max Planck Institute for the Physics of Complex Systems.
Title: *Floquet Superheating*.
- 04.2025 **Zhong Shengbiao Graduate Academic Forum**, School of Physics, Peking University.
Title: *Floquet-engineered Emergent Massive Nambu-Goldstone Modes*.
- 05.2025 **Xingcheng Undergraduate Academic Forum**, School of Physics, Peking University.
Title: *Floquet-engineered Emergent Massive Nambu-Goldstone Modes*.

Workshops/Schools

- 08.2025 **Workshop: New Frontiers in Out-of-Equilibrium Quantum Many-Body Dynamics**, Max Planck Institute for the Physics of Complex Systems.
Poster presentation: *Floquet-engineered Emergent Massive Nambu-Goldstone Modes*.
- 09.2025 **Master School: From Quantum Matter to Quantum Computers**, Max Planck Institute for the Physics of Complex Systems.
Poster presentation: *Floquet-engineered Emergent Massive Nambu-Goldstone Modes*.

Skills

- Python
- High Performance Computing
- Mathematica
- Latex