

Chenqi Meng

PhD student in Physics | The Chinese University of Hong Kong

mcqgravity@gmail.com | chenqitrg.github.io | [Google Scholar](https://scholar.google.com/citations?user=mcqgravity) | [GitHub](https://github.com/chenqitrg)

RESEARCH INTERESTS

Generalized symmetries and classification of quantum phases; fusion categories and non-invertible SPT phases; tensor network renormalization and many-body simulation; algebraic formulations of conformal field theory and holographic duality.

I favor a mathematical approach, starting from ideal models and fixed-point theories. My longer-term interests include higher-dimensional conformal field theories and extending insights from these settings towards more realistic physical systems.

EDUCATION

The Chinese University of Hong Kong | PhD in Physics, in progress

September 2021 - Present | Advisor: Zhengcheng Gu

University of Science and Technology of China | BS in Physics

September 2017 - May 2021 | GPA: 3.69/4.3

PUBLICATIONS AND PREPRINTS

Algebraic Tensor Network Renormalization and Holographic duality

Chenqi Meng, Tian Lan, Zhengcheng Gu.

Preprint (2026) | [arXiv:2610.08787](https://arxiv.org/abs/2610.08787)

A Practical Introduction to Tensor Network Renormalization with TNRKit.jl

Victor Vanthilt, Adwait Naravane, **Chenqi Meng**, Atsushi Ueda.

SciPost Physics Codebases 77 (2026) | DOI · [arXiv:2604.06922](https://arxiv.org/abs/2604.06922)

Non-invertible SPTs: an on-site realization of $(1+1)d$ anomaly-free fusion category symmetry

Chenqi Meng, Xinping Yang, Tian Lan, Zhengcheng Gu.

Preprint (2024; revised 2025) | [arXiv:2412.20546](https://arxiv.org/abs/2412.20546)

RESEARCH SOFTWARE

Contributor to [TNRKit.jl](https://github.com/chenqitrg/TNRKit.jl), a collaborative Julia package for tensor network renormalization.

SKILLS

Programming: Julia, Python, C, Mathematica.

Scientific computing: Tensor network algorithms, Loop-TNR, DMRG, many-body simulation.

Mathematics: Category theory, representation theory, conformal field theory, algebra.

OTHER PROJECT

Peerpedia: A website for reading and reviewing research papers. peerpedia.dev

PERSONAL INTERESTS

Hiking, cycling, and the art of M. C. Escher.