

Wenhao He

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EDUCATION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Sep. 2023 – Now

Master to PhD of Computational Science and Engineering

PEKING UNIVERSITY

Sep. 2019 – July 2023

Bachelor of Science in Physics

HONORS AND AWARDS

- National Scholarship (2019 Fall to 2020 Spring)
- Pacemaker to Merit Student of Peking Univ. (2019 Fall to 2020 Spring)
- Weiming Honored Physics Student Scholarship (2020 Fall to 2021 Spring)
- Outstanding Scientific Research Award of Peking Univ. (2020 Fall to 2021 Spring)
- Gold Medal in the 34th China Physics Olympics final (2018)

PREPRINTS & PUBLICATIONS (Google Scholar: [Wenhao He](#))

- **Wenhao He**^{*}, Xu Chen^{*}, Noah Song^{*}, Haowei Xu, Tim S. Hindges, Bohan Li, Zihan Lin, Yu Yao, Avetik R. Harutyunyan, Fang Liu, Yao Wang, Hao Tang, Ju Li *Coupled-cluster molecular properties across the main group that extrapolate beyond training size* ^{*}These authors contributed equally [arXiv:2608.18346](#)
- Mouyang Cheng^{*}, **Wenhao He**^{*}, Zhuotao Jin^{*}, Bowen Yu, Ju Li, Boris Kozinsky, Yao Wang, Pavel Volkov, Liangzi Deng, Ching-Wu Chu, Xiao-Gang Wen, Mingda Li *Can LLMs extract scientific consensus? A case study in high-temperature superconductivity* ^{*}These authors contributed equally [arXiv:2606.07570](#)
- Tim S. Hindges, **Wenhao He**, Ju Li *Recent advances in electronic structure learning* [Modelling and Simulation in Materials Science and Engineering](#) (2026)
- Hao Tang, Brian Xiao, **Wenhao He**, Pero Subasic, Avetik R. Harutyunyan, Yao Wang, Fang Liu, Haowei Xu, Ju Li *Approaching coupled-cluster accuracy for molecular electronic structures with multi-task learning* [Nature Computational Science](#) volume 5, pages 144–154 (2025)
- Xiao-Ming Zhang, Yukun Zhang, **Wenhao He**, Xiao Yuan *Exponential Quantum Advantages for Practical Non-Hermitian Eigenproblems* [Phys. Rev. Lett.](#) **135**, 140601
- Guo Zheng^{*}, **Wenhao He**^{*}, Gideon Lee, Liang Jiang *The near-optimal performance of quantum error correction codes* ^{*}These authors contributed equally [Phys. Rev. Lett.](#) **132**, 250602
- Guo Zheng^{*}, **Wenhao He**^{*}, Gideon Lee, Kyungjoo Noh, Liang Jiang *Performance and achievable rates of the Gottesman-Kitaev-Preskill code for pure-loss and amplification channels* ^{*}These authors contributed equally [PRX Quantum](#) **6**, 030314
- **Wenhao He**, Tongyang Li, Xiantao Li, Zecheng Li, Chunhao Wang, and Ke Wang *Efficient Optimal Control of Open Quantum Systems* [arXiv:2405.19245](#) accepted talk at [TQC 2024](#), QSim 2024
- **Wenhao He**^{*}, Wenhao Zhang^{*}, Xiao Yuan, Yangchao Shen, and Xiao-Ming Zhang *Scaling of entangling-gate errors in large ion crystals* ^{*}These authors contributed equally [J. Phys. A: Math. Theor.](#) **57**, 375306
- Junxiang Huang^{*}, **Wenhao He**^{*}, Yukun Zhang, Yusen Wu, Bujiao Wu, and Xiao Yuan *Tensor Network Assisted Variational Quantum Algorithm* ^{*}These authors contributed equally [Phys. Rev. A](#) **108**, 052407
- **Wenhao He**, Zhenduo Wang, Biao Wu *Lorentz Quantum Computer* [Chinese Phys. B](#) **32**, 040304

RESEARCH EXPERIENCE

PhD Student at MIT

May 2023 – Now

- Foundation Model for Quantum Chemistry Advisor: Prof. Ju Li, MIT
- Reinforcement Learning for 2D Material Atomistic Simulation Advisor: Prof. Ju Li, MIT

Undergraduate Intern at UChicago

Aug. 2022 – April 2023

- Research on Quantum Error Correction Code Decoder Advisor: Prof. Liang Jiang, University of Chicago

Undergraduate Intern at UC Berkeley

May 2022 – Jul. 2022

- Debugged and restored a BEM Solver for Simulating Ion Traps Advisor: Prof. Hartmut Haeffner, University of California, Berkeley

Undergraduate Student at Peking University

Jun. 2020 – Jul. 2023

- Research on Theoretical Quantum Computation Advisor: Prof. Biao Wu, Peking University
- Research on Hybrid Quantum Classical Algorithm Advisor: Prof. Xiao Yuan, Peking University
- Optimal Control in Open Quantum System Advisor: Prof. Tongyang Li, Peking University

ACTIVITIES

- Teaching Assistant for Quantum Computation and Quantum Information at Peking Univ. (2021 Fall)

SKILLS

- Programming: Python, C/C++, Mathematica, Matlab, Julia, LaTeX, Linux Shell, Lean4, Dafny