# Peter Yang

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## Education

**University of Cambridge** — Peterhouse, Cambridge, England
*PhD in Quantum Information/Computing Prof Crispin Barnes/Dr David Arvidsson* — *Jan 2025 –*

**University of Cambridge** — Peterhouse, Cambridge, England
*BA/Master of Science in Physics* ***First Class*** — *Oct 2020 – Jun 2024*

## Research Experience

**Tsinghua University** — Prof.Jin-Peng Liu
*Research Student* — *Summer 2025 – Now*

**Haiqu** — Richard East
*Research Intern* — *Summer 2025*

**Department of Computer Science, University of Cambridge** — Dr Prakash Murali
*Research Student* — *Summer 2024 – Now*

**Hitachi Laboratory, University of Cambridge** — Dr David Arvidsson-Shukur
*Research Graduate* — *Oct 2023 – June 2024*

**Yusuf Hamied Department of Chemistry, University of Cambridge** — Dr.Alex Thom
*Research Undergraduate* — *July 2023 – Sep 2023*

**Coherent Quantum Lab, University of Cambridge** — Dr.Helena Knowles, Cavendish
*Research Undergraduate* — *Oct 2022 – Mar 2023*

**DAMTP, University of Cambridge** — Dr.Sergii Strelchuk, Centre for Mathematical Sciences
*Research Undergraduate* — *Jan 2023 – May 2023*

**AMOP group, University of Cambridge** — Prof.Mete Atature, Cavendish, Prof.Dorian Gangloff, Oxford
*Research Undergraduate* — *Mar 2023 – May 2023*

**MRI group, University of Cambridge** — Prof.Chris Rodgers, Wolfson Brain Imaging Centre
*Research Undergraduate* — *Agu 2022 – Oct 2022*

## Awards & Achievements

**Hitachi studentship:**Industrial PhD Scholarship

**The Henry Cavendish Scholarship in Natural Sciences for 2023/24:**Nature Science scholarship

**Bruckmann Award 2023:**Nature Science scholarship

**Peterhouse College Scholarship 2023:**Peterhouse Scholarship

**Donald Higham Award 2022:**Peterhouse Scholarship

## Work

[1]**Yang, S.**, Yuan, H., & Barnes, C. H. (2025). Experimental Demonstration of the PBR Test on a Superconducting Processor. arXiv preprint arXiv:2510.11213.

[2]**Yang, S.**, & Liu, J. P. (2025). Circuit-Efficient Randomized Quantum Simulation of Non-Unitary Dynamics with Observable-Driven and Symmetry-Aware Designs. arXiv preprint arXiv:2509.08030.

[3]Filippov, D., **Yang, P.**, & Murali, P. (2025). Architecting Distributed Quantum Computers: Design Insights from Resource Estimation. arXiv preprint arXiv:2508.19160.

[4] Thio, J. J., **Yang, S.**, De Bièvre, S., Barnes, C. H., & Arvidsson-Shukur, D. R. (2025). Kirkwood-Dirac Nonpositivity is a Necessary Resource for Quantum Computing. arXiv preprint arXiv:2506.08092.

[5]Yuan, H., **Yang, S.**, & Barnes, C. H. (2025). Iterative quantum optimisation with a warm-started quantum state. arXiv preprint arXiv:2502.09704.

[6]**Yang, S.**, & Murali, P. (2024). Understanding the Scalability of Circuit Cutting Techniques for Practical Quantum Applications. arXiv preprint arXiv:2411.17756.

[7]**Yang, S.** (2023). Randomized term grouping over physical law on digital quantum simulation. arXiv preprint arXiv:2309.14378.