

Evan Hockings

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evanhockings.com

Positions

Member of Technical Staff	July 2025–present Iceberg Quantum
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Education

Doctor of Philosophy (Physics)	2021–2025 University of Sydney
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Thesis: Noise characterisation of fault-tolerant quantum computers

Advisors: Andrew Doherty, Robin Harper

Bachelor of Science (Advanced Mathematics) (Honours) in Physics	2017–2020 University of Sydney
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Honours Class I and the University Medal

Weighted average mark: 90

Thesis: Scalable estimation of quantum noise

Advisor: Steven Flammia

Other experience

Physics Research Assistant	September 2024–July 2025 School of Physics, University of Sydney
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Advisor: Stephen Bartlett

Machine Learning for Alignment Bootcamp	August–September 2022 Redwood Research
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Chemistry Research Assistant	February–June 2019 School of Chemistry, University of Sydney
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Advisor: Girish Lakhwani

Physics Summer Research Internship	November 2018–January 2019 Research School of Physics, Australian National University
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Advisor: Daniel Cocks

Chemistry Summer Research Internship	January–March 2018 School of Chemistry, University of Sydney
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Advisor: Girish Lakhwani

Awards and honours

Unitary Foundation Microgrant (QuantumACES.jl)	2024
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Australian Government Research Training Program Scholarship	2021–2024
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University of Sydney Honours Scholarship	2020
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Dean's List of Excellence in Academic Performance	2017, 2018, 2019, 2020
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Faculty of Science Olympiad Scholarship	2017–2020
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Sydney Scholars Award	2017–2019
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School of Physics Julius Sumner Miller Scholarships for Academic Excellence No. 3	2019
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Walter Burfitt Scholarship No. 2 for Physics	2019
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University of Sydney Academic Merit Prize	2017, 2018
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Science Foundation for Physics Scholarship No. 2	2018
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School of Physics Julius Sumner Miller Scholarships for Academic Excellence No. 1	2017
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International Chemistry Olympiad Bronze Medal	2016
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Publications

1. S.-H. Lee, X. C. Kolesnikow, J. Zen, **E. T. Hockings**, C. K. McLauchlan, G. M. Nixon, T. R. Scruby, S. D. Bartlett, R. Harper, and B. J. Brown, Scalable quantum error correction tailored for a heavy-hex qubit array, [arXiv:2604.14296](#).
2. P. Webster, L. Berent, O. Chandra, **E. T. Hockings**, N. Baspin, F. Thomsen, S. C. Smith, and L. Z. Cohen, The Pinnacle architecture: reducing the cost of breaking RSA-2048 to 100 000 physical qubits using quantum LDPC codes, [arXiv:2602.11457](#).
3. R. Harper, C. Lainé, **E. T. Hockings**, C. McLauchlan, G. M. Nixon, B. J. Brown, and S. D. Bartlett, Characterising the failure mechanisms of error-corrected quantum logic gates, [Nature Communications](#) **17**, 5039 (2026), [arXiv:2504.07258](#).
4. **E. T. Hockings**, A. C. Doherty, and R. Harper, Improving error suppression with noise-aware decoding, [arXiv:2502.21044](#).
5. **E. T. Hockings**, [QuantumACES.jl](#): design noise characterisation experiments for quantum computers, [Journal of Open Source Software](#) **10**, 7707 (2025).
6. **E. T. Hockings**, A. C. Doherty, and R. Harper, Scalable noise characterisation of syndrome extraction circuits with averaged circuit eigenvalue sampling, [PRX Quantum](#) **6**, 010334 (2025), [arXiv:2404.06545](#).
7. Y. Li, R. P. Sabatini, S. K. K. Prasad, **E. T. Hockings**, T. W. Schmidt, and G. Lakhwani, Improved optical confinement in ambipolar field-effect transistors toward electrical injection organic lasers, [Applied Physics Letters](#) **119**, 163303 (2021).

Popular writing

The risks posed by artificial intelligence demand serious consideration

October 2022
Honi Soit