

FELIX THOMSEN

Sydney, Australia

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EDUCATION

The University of Sydney, Australia

July 2020 - Present

Doctor of Philosophy (Physics)

Advisor: Stephen Bartlett

The University of Sydney, Australia

March 2015 - December 2019

Bachelor of Science (Advanced) (Physics) & Bachelor of Engineering Honours (Mechatronics)

Minors: Computer Science, Space Engineering

First Class Honours

The University of Pennsylvania, United States

August 2018 - December 2018

Undergraduate Exchange Student (Physics & Mathematics)

RESEARCH EXPERIENCE

Quantum Theory Group, University of Sydney

July 2020 - Present

PhD Student

Q-CTRL

December 2019 - October 2020

Quantum Control Engineer

Quantum Theory Group, University of Sydney

February 2019 - November 2019

Honours Student

Particle Physics Group, University of Sydney

January 2019 - February 2019

Summer Research Student

Complex Systems Group, University of Sydney

July 2017 - July 2018

Research Assistant

PUBLICATIONS

- **F. Thomsen**, M. S. Kesselring, S. D. Bartlett, B. J. Brown. Low-overhead quantum computing with the color code. arXiv preprint, arXiv:2201.07806, 2022. [More Information]
- A.R.R. Carvalho, H. Ball, M. J. Biercuk, M. R. Hush, **F. Thomsen**. Error-Robust Quantum Logic Optimization Using a Cloud Quantum Computer Interface. Physical Review Applied, 2021. [More Information]
- B. Lee, **F. Thomsen**, D. Abood, Z. Liu, M. Chea, R. Nath, S. Wu. Wedgetail: A Sounding Rocket to Lift off Rocketry Education in Australia. 68th International Astronautical Congress, 2017. [More Information]

ORAL AND POSTER PRESENTATIONS

- "Moving beyond the surface code: Low-overhead quantum computing with the color code". Poster at EQUS annual workshop. December 2nd, 2021.
- "Low Overhead Quantum Computing Using Color Code Lattice Surgery". Invited talk at Sydney Quantum Information Theory workshop Coogee'21. February 10th, 2021.

- "Giving the Color Code its Edge Back: Low Overhead Quantum Computing Using Color Code Lattice Surgery". Poster at Sydney Quantum Academy Student Mini Conference. December 11th, 2020.

AWARDS AND HONOURS

- Sydney Quantum Academy PhD Scholarship (2020)
- School of Computer Science Senior High Honour Roll, University of Sydney (2018)
- Science Research Experience Scholarship, University of Sydney (2018)
- Vice Chancellor Global Mobility Scholarship, University of Sydney (2018)
- Denison Research Scholarship, University of Sydney (2017)

EXTRACURRICULAR ACTIVITIES

IBM Qiskit Camp Asia

November 2019

Attendee

University of Sydney Rocketry Society

January 2017 - July 2017

Lead Recovery Engineer

SKILLS

Tools	Python, Git, MatLab, QuTip, Qiskit
Languages	English (<i>native</i>), German (<i>native</i>)

REFEREES

Stephen Bartlett

Professor

University of Sydney

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Benjamin Brown

Research Fellow

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