

# Xiangjun Tan

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## Education

### University of New South Wales (UNSW)

Bachelor in Quantum Engineering Science/Physics

Sydney

Sep. 2021 - Current

### Peking University (PKU)

Summer School, Introduction to Quantum Information Technology

Beijing

Jun. 2022 - Aug. 2022

GPA:87

## Research Projects

### Research on Neutrino Oscillation

UNSW, Sydney

Physics Research Project, supervisor: Dr. Michael Schmidt

Aug. 2022 - Jan. 2023

- Studied the Time Evolution of the Effective Hamiltonian in Vacuum and in Matter.
- Derived the Expression for Evolution in Dark Matter.
- Developed an Interactive Model for Neutrino Oscillation using Python.

### Modeling and Simulation of Silicon Qubit Devices

UNSW, Sydney

SQA Undergraduate Research, supervisor: Dr. Chris Escott

Jan. 2023 - Mar. 2023

- Studied the Basics of Silicon Qubits.
- Developed a Customized Ising-Model for Simulation using Matlab.

### Research on Quantum Computation for Neutrino Oscillation and Many-body Problems

UNSW, Sydney

Talented Student Program, supervisor: Prof. Susan Coppersmith

Mar. 2023 - Present

- Studying the Fundamentals of Many-body Physics and Quantum Field Theory (QFT).
- Developing a Collective Neutrino Oscillation Algorithm on the IBMQ Platform.
- Using Error Mitigation Strategies to Reduce Errors and Optimize Gate Costs.

### Quantum Hall Effect in 2D Systems

UNSW, Sydney

Taste of Research, supervisor: Prof. Alex Hamilton

Sep. 2023 - Present

- Measuring the Quantum Hall Effect at Temperatures Below 2 Kelvin and Magnetic Fields Up to 9 Tesla.

### Chiral Phonon and Non-equilibrium transport

Institute of Theoretical Physics,  
Chinese Academy of Sciences

Research Assistant, supervisor: A/Prof. Tiantian Zhang

Dec. 2023 - 2024

- TBA

## Awards and Honors

Dec. 2022-2023

Scholarship: "SQA undergraduate Student Research Scholarship "

Sydney

Quantum  
Academy

Feb. 2023

Award: Dean's list in 2022

UNSW En-  
gineering

## Activities

### UNSW Research Seminar Association

UNSW Sydney

President / Founder

Apr. 2023 - Present

- I am the founder and president of the Research Seminar Association (RSA), a university-certified society. We bring together researchers and students on a weekly basis to discuss a variety of topics. Additionally, our association collaborates with international companies, facilitating job sharing opportunities and addressing employment-related issues for researchers.

### Quantum Computation Training Program(4-th)

University of Science and  
Technology of China

Student

June. 2023 - Present

## Technical Skills

<b>Programming</b>	Matlab, C, Python
<b>Professional Softwares</b>	Matlab, Ltspice, Mathematica
<b>Drawing &amp; Typesetting</b>	Photoshop, Office, L <sup>A</sup> T <sub>E</sub> X
<b>Languages</b>	Chinese(Native), English