**Ha Quang Trung**

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**Education**

*2019 – 2024*

*Doctor of Philosophy*

Nanyang Technological University (Singapore)

Theoretical Condensed Matter Physics

*2015 – 2019*

*Bachelor of Science*

Nanyang Technological University (Singapore)

Major in Physics with Second Major in Mathematics

*2011 – 2014*

*High School Diploma*

NUS High School of Mathematics and Science (Singapore)

NUS High School Diploma (High Distinction)

Majored with Honours in Mathematics and Physics. Majored in Chemistry and Music.

**Research Experience**

Jan 2024 – present

Division of Physics and Applied Physics, School of Physical and Mathematical Sciences, NTU

Under Yang Bo’s group

Research Assistant

Projects (current):

* Investigating the dynamics of non-Abelian anyons in fractional quantum Hall (FQH) states under realistic interactions.
* Modelling of experimental setups for detecting signature of anyon statistics (anyon collider)

Aug 2019 – Jan 2014

Division of Physics and Applied Physics School of Physical and Mathematical Sciences, NTU

Under Yang Bo’s group

PhD Student

* 2022-2023: Microscopic mechanism for the statistical transmutation and the spin-statistics relation for anyons in FQH systems
* 2019-2021: Dynamics of Gaffnian quasiholes within the Laughlin phase and its physical implication regarding the nematic quantum Hall effect.

Jun 2016 – May 2019

Division of Physics and Applied Physics, School of Physical and Mathematical Sciences, NTU

Under Chong Yidong’s Group

Research Assistant

Projects

* 2018: *Circuitry Analogs of Non-Hermitian Topological Edge States*. As part of Final Year Project.
* 2016-2017: *Theoretical Study of Non-Hermitian Hamiltonian*. As part of Undergraduate Research Experience on Campus (URECA).

2013

NUS High School of Mathematics and Science

Advanced Research Project

Project title: *Quantized Vortex Interaction via Particle Interaction Models*

Supervisor: Bao Weizhu (Department of Mathematics, National University of Singapore)

2013

Nanyang Technological University

Nanyang Research Programme

Project title: *Theoretical Study of Effect of Cavity Resonances on Laser Linewidth*

Supervisor: Chong Yidong

**Publications**

H. Q. Trung, Y. Wang, and B. Yang. *Spin-statistics relation and Abelian braiding phase for anyons in the fractional quantum Hall effect.* Phys. Rev. B **107**, L201301 (2023) arXiv:2208.13786

H. Q. Trung and B. Yang, *Fractionalisation and dynamics of anyons at nu=n+1/3 in fractional quantum Hall effect and their experimental signatures.* Phys. Rev. Lett. **127**, 046402 (2021) arXiv:2009.14214

**Presentations & Workshop**

March 2020 APS March Meeting 2020

(Online)

August 2018 33rd International Conference for Physics Students (ICPS)

Helsinki, Finland

- Presented results on non-Hermitian Topological Edge States

July 2017 International Conference of Undergraduate Research (ICUR)

Singapore

- Presented results on non-Hermitian Topological Edge States

June 2017 SPROUT Workshop – NUS High School of Mathematics and Science

Singapore

- Conducted a two-day workshop on basic Linear Algebra and Quantum Mechanics for secondary school and high school students.

**Selected Awards & Scholarships**

May, Dec 2022 and May 2023

Best Teaching Assistant Award (3 times)

*Student-voted prize for second-year undergraduate teaching lab.*

2021 Outstanding Achievement Award, SPMS

2018 Undergraduate Award

*Regional Winner, Mathematics and Physics Category*

2015 ASEAN Undergraduate Scholarship

2014 Singapore Mathematics Olympiad

*Gold Medal (Open)*

2013 Nanyang Research Programme

*Silver Award*

2013 Singapore Mathematics Olympiad

*Gold Medal, 28th Individual (Open)*

2013 Singapore Physics Olympiad

*Silver Medal*

2013 Euclid Math Contest

*School Winner*

2012 Singapore Physics Olympiad

*Bronze Medal*

2012 Singapore Junior Physics Olympiad

*Gold Medal*

2011 A\*STAR High School Scholarship (Affiliated with NUS High School of Math and Science)

**Teaching Experience**

2023 Teaching Assistant, School of Physical and Mathematical Sciences, NTU

2022-2023 Teaching Lab Assistant, School of Physical and Mathematical Sciences, NTU

2021 Trainer*, The University Physics Challenge*,

School of Physical and Mathematical Sciences, NTU

2019-2020 Co-ordinator*, Recreational Physics,*

School of Physical and Mathematical Sciences, NTU

2018 Peer Tutoring Program, School of Physical and Mathematical Sciences, NTU

2015-2017 Teaching Assistant, NUS High School of Mathematics and Science

Conducted training for the Physics Olympiad Team of NUS High at both secondary school (SJPO) and high school (SPhO) level.

**Other Projects**

2016 *3-D Printed Violin*

As part of *Making and Tinkering* Course,

School of Physical and Mathematical Sciences, NTU.

- Working from an open-source 3D printed violin model, I made modification to improve the projection of the sound, 3D printed in parts, and assembled a few prototypes for a functioning violin.