

# TRUONG Le Gia Khanh

Ho Chi Minh City University of Education, Vietnam

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## Education

### Ho Chi Minh City University of Education

Ho Chi Minh City, Vietnam

Bachelor's Degree in Mathematics Education (Honours)

9/2021 - 5/2025

CGPA: 3.89/4.00

Valedictorian of both Program and Faculty

- Best Thesis Award (perfect score) for topic **Boundedness of Singular Stochastic Integral Operator**
- Top 5 of Faculty (4/4 years) and Top 1% of University (3/4 years)

### Tran Dai Nghia High School for the Gifted

Ho Chi Minh City, Vietnam

High School Diploma: Specialist in Mathematics

9/2018 - 5/2021

CGPA: 9.3/10.0

- Top 2% national students in National High School Graduation Exam (27.05/30.0).
- Highest Score in Mathematics Subjects (3/3 years).

## Research Experience

### Vietnam Academy of Science and Technology

Ha Noi City, Vietnam

Potential Researcher (full time)

6/2024 - 8/2024

- Work under the grants of Vingroup Innovation Foundation and Simons Foundation.
- Project: Manifold Learning Methods and Applications.
- Supervisor: **Dr. Luu Hoang Duc**

### Collaborative Mathematical Research for Undergraduate Students

Hybrid

Potential Researcher (full time)

9/2023-6/2024

- Work under the grant "Faculty Global Research with Undergraduates" from the University of Virginia Center for Global Inquiry and Innovation.
- Project: Random walk on Cayley graphs and unimodular random graphs.
- Supervisor: **Prof. Ben Hayes**

### Ho Chi Minh City University of Education

Ho Chi Minh City, Vietnam

Undergraduate Researcher (full time)

11/2021-4/2022, 11/2023-4/2024, and

11/2024-4/2025

- Work under the grant of HCMUE Foundation for Science and Technology in 5 projects.
- Project: Singular stochastic integral operator. From September 2024 to April 2025. Advisor: **Msc. Nguyen Thanh Tung, Dr. Nguyen Ngoc Trong.**
- Project: Computation of extension groups between truncated polynomial functors in the category of strict polynomial functors. From September 2024 to April 2025. Advisor: **Dr. Nguyen Le Chi Quyet.**
- Project: Layer potential methods for boundary value problems. From September 2023 to April 2024. Advisor: **Dr. Nguyen Ngoc Trong.**
- Project: A well-balanced numerical scheme for the Shear Shallow Water model with bathymetry. From September 2023 to April 2024. Advisor: **Dr. Dao Huy Cuong.**
- Project: Mobile learning in mathematics education. From September 2021 to April 2022. Advisor: **Dr. Tang Minh Dung.**

## Academic Activities

### PUBLICATIONS

Parabolic Littlewood-Paley Inequality of Hilbert-valued Stochastic Integral with Stochastic Hörmander Condition

Truong Le Gia Khanh, Nguyen Ngoc Huu An

HCMUE Journal of Science, Accepted (2025) [[preprint pdf](#)]

Homology Computation of Bicomplexes between some Polynomial Functors

Truong Le Gia Khanh, Nguyen Le Chi Quyet

HCMUE Journal of Science, Accepted (2025) [[preprint pdf](#)]

A well-balanced numerical scheme based on a stationary contact jump for the shear shallow water model with bathymetry

Truong Le Gia Khanh, Dao Huy Cuong

Submitted (2024) [[preprint pdf](#)]

Weak Harnack Inequality for Schrödinger-type Operator

Nguyen Duc Trung, Truong Le Gia Khanh, Nguyen Ngoc Huu An, Nguyen Trong Nhan, Nguyen Thuy Tien

HCMUE Journal of Science 21.2 (2024) 256 [[link](#)]

Mobile learning in mathematics education: A systematic literature review of empirical research

Tang Minh Dung, Nguyen Thi Ngoc Cam, Truong Le Gia Khanh, Vo Khoi Nguyen, Nguyen Thai Hung, Le Tuan Khai, Bui Ngoc Huy, Tran Thanh Nha, Nguyen Thuy Tien

EURASIA Journal of Mathematics, Science and Technology Education 19.5 (2023) em2268. Modestum [[link](#)]

ORAL PRESENTATIONS

- A well balanced numerical scheme based on a stationary contact jump for the shear shallow water model with bathymetry  
Truong Le Gia Khanh  
47th Conference of Undergraduate Research, 2024, Ho Chi Minh City, Vietnam [pdf]
- Dimensionality Reduction: Theory and Practice  
Truong Le Gia Khanh  
National Conference for Potential Researchers, 2023, Hanoi City, Vietnam, 2024, Hanoi City, Vietnam
- Random walk on Cayley graphs and unimodular random graphs  
Truong Le Gia Khanh  
Vietnam Polymath REU: Student, Research, and Academia Workshop, 2024, Ha Noi City, Vietnam [pdf]
- Mobile Learning in Mathematics Education: A Systematic Literature Review of Empirical Research  
Truong Le Gia Khanh  
45th Conference of Undergraduate Research, 2022, Ho Chi Minh City, Vietnam [pdf]

Teaching Experience

<b>Tutoring Community in Ho Chi Minh City</b> Mathematics Tutor (part-time)	Ho Chi Minh City, Vietnam 2/2024 - present
<b>Han Thuyen High School</b> High School Teacher (full-time internship)	Ho Chi Minh City, Vietnam 2/2025 - 4/2025
<b>Tran Dai Nghia High School for the Gifted</b> High School Teacher (full-time internship)	Ho Chi Minh City, Vietnam 2/2024 - 3/2024

Achievements

ACADEMIC

- 2025
- Second Prize for Algebraic Topology topic** (3rd/37 topics), *Undergraduate Research Contest*, Ho Chi Minh City University of Education
- 2025
- Third Prize for Stochastic Harmonic Analysis topic** (11th/37 topics), *Undergraduate Research Contest*, Ho Chi Minh City University of Education
- 2024
- First Prize**, *Competition for Designing Teaching Aids and Digital Learning Materials*, Ho Chi Minh City University of Education
- 2024
- Second Prize for Numerical Analysis topic** (5th/33 topics), *Undergraduate Research Contest*, Ho Chi Minh City University of Education
- 2024
- Third Prize for Partial Differential Equations topic** (12th/33 topics), *Undergraduate Research Contest*, Ho Chi Minh City University of Education
- 2022
- Second Prize in Algebra**, *National Mathematical Olympiad (Table of Advanced Universities)*, Vietnam Mathematical Society
- 2021
- First Prize**, *City Excellent Students Contest in Solving Mathematics with Calculator (Table of High Schools)*, Department of Education and Training, Ho Chi Minh City
- 2021
- Second Prize**, *City Excellent Students Contest in Mathematics (Table of Advanced High Schools)*, Department of Education and Training, Ho Chi Minh City
- 2018
- Second Prize**, *City Excellent Students Contest in Mathematics (Table of Secondary Schools)*, Department of Education and Training, Ho Chi Minh City

SCHOLARSHIP

- 2025
- Merit based**, *Never Give Up Scholarships for Talented Students*, Sponsorship program for talented student, 1800\$ AUD
- 2024
- Fully funded**, *Research Internship Scholarship*, Vietnam Academy of Science and Technology, 300\$ AUD
- 2021-2025
- Merit based**, *Outstanding Academic Scholarships*, Ho Chi Minh City University of Education, 800\$ AUD per year.
- 2022-2023
- Merit based**, *Paris - Benin - Vietnam Vallet Scholarships*, Fondation de France, 1600\$ AUD
- 2018-2021
- Merit based**, *Top 30% Highest Math GPA of Mathematics Honours class*, Tran Dai Nghia High school for the Gifted, 150\$ AUD per year

FULL TRAVEL AWARD

Fall 2024	<i>VIASM Summer School on Mathematical Physics</i> , Vietnam Institute for Advanced Study in Mathematics
Fall 2024	<i>VIASM Summer School in PDE and Application</i> , Vietnam Institute for Advanced Study in Mathematics
Fall 2024	<i>Vietnam Polymath REU: Student, Research, and Academia Workshop</i> , Vietnam Institute for Advanced Study in Mathematics
Fall 2024	<i>VIASM Summer School on Galois representations and Reciprocity</i> , Vietnam Institute for Advanced Study in Mathematics
Winter 2023	<i>VIASM Winter School on Game Theory and Combinatorial Optimization</i> , Vietnam Institute for Advanced Study in Mathematics
Fall 2023	<i>VIASM-ICTP Summer School on Differential Geometry</i> , Vietnam Institute for Advanced Study in Mathematics
Fall 2022	<i>National School on Mathematical Modelling and Dynamical System</i> , Vietnam Institute for Advanced Study in Mathematics

## **Skills**

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<b>Standard Programming</b>	Python (Tensorflow), Matlab
<b>Data Analytics</b>	R
<b>Language</b>	English, Vietnamese (Native)

## **Reference**

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### **Professor Ben Hayes**

Polymath REU Research Advisor (9 months)

- Department of Mathematics
- University of Virginia, USA
- ✉ brh5c@virginia.edu

### **Dr. Luu Hoang Duc**

VAST Research Advisor (4 months)

- Max-Planck-Institut für Mathematik in den Naturwissenschaften, Leipzig, Germany & Institute of Mathematics, Vietnam Academy of Science and Technology, Vietnam
- ✉ lhduc@math.ac.vn, duc.luu@mis.mpg.de

### **Senior Lecturer Nguyen Ngoc Trong**

Thesis and Research Advisor (12 months), Lecturer (3 courses) during undergraduate

- Department of Analysis
- Member of Group of Analysis and Applied Mathematics (GAAM) [\[link\]](#)
- Ho Chi Minh City University of Education, Vietnam Ministry of Education and Training
- ✉ trongnn@hcmue.edu.vn