

Phi Hoang TRAN

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Education

PhD student in Applied Mathematics

INSA Rennes & INRIA

October 2025 – present

Rennes, France

Dissertation: *Hamilton-Jacobi equations on networks and applications to population dynamics and connected micro-environments*

Research unit: IRMAR - UMR CNRS 6625

Master 2 in Applied Mathematics

University of Tours (Vietnam–France track)

August 2024 – June 2025

Ho Chi Minh City, Vietnam & Rennes, France

Master's degree program: Master Franco - Vietnamien de Mathématiques Appliquées (MFVMA)

Ranked 1st (Excellent) — CPA: 18.15/20

Bachelor of Science in Mathematics Teacher Education

Ho Chi Minh City University of Education (HCMUE)

August 2019 – June 2023

Ho Chi Minh city, Vietnam

Honors program

Graduated with excellent rank — CPA: 3.6/4.0

Research Interests

PDEs and numerical analysis, optimization, convex and variational analysis, machine learning and applications

(Pre)Publications & Communications

Preprint

IRMAR & INSA Rennes

April 2026

Rennes, France

Daniilidis, A., Haddou, M., Le, T. M., Ley, O., & **Tran, P. H.** (2024). Solving Nonlinear Absolute Value Equations. arXiv preprint arXiv:2402.16439. **(Submitted)**

Accepted oral communication in a national congress

IRMAR & INSA Rennes

June 2026

CANUM 2026, Saint Jacut de-la-Mer, France

Talk: [Solving Nonlinear Absolute Value Equations](#)

Accepted poster communication in a national congress

IRMAR & INSA Rennes

June 2026

CANUM 2026, Saint Jacut de-la-Mer, France

Poster: [Convergence Rates For Non-degenerate Elliptic PDEs On Junctions With Kirchhoff Conditions](#)

Research Experience & Projects

Master 2 Internship

IRMAR & INSA Rennes

April 2025 – June 2025

Rennes, France

Master 2 Thesis: [Complementarity problems and absolute value equations: Analysis and comparison of numerical methods](#)

Advisors: Prof. Mounir Haddou and Prof. Dominique Monnet

Abstract: We analyse and compare several numerical approaches and also consider generalizations of linear absolute value problems to nonlinear ones.

Master 2 Projects

HCMC University of Science (HCMUS)

August 2024 – March 2025

HCMC, Vietnam

[Comparison of optimization methods](#): Studied and compared a range of optimization algorithms including (proximal) gradient descent, the (proximal) heavy ball method, ISTA, and FISTA.

[Modélisation and scientific computing](#): Implemented 1D finite difference and 2D finite element methods to solve PDEs applied to mechanical problems.

Graduation Thesis

HCMC University of Education

June 2022 – April 2023

HCMC, Vietnam

Thesis: [Subgradient Method and Applications](#) — Grade: 10/10

Advisors: Prof. Tran Ba Dat and Prof. Pham Duy Khanh

Abstract: The thesis studies the convergence analysis of different variants of Shor's subgradient method. The algorithms are then applied to solve Lasso regression and Convex clustering problems with real data sets via Python.

Scientific Project

HCMC University of Education

September 2021 – May 2022

HCMC, Vietnam

Topic: [Projection Methods for Solving Generalized Monotone Variational Inequalities](#)

Advisor: Prof. Pham Duy Khanh

Third prize in Scientific Research Conference for Undergraduates in academic year 2021–2022.

Abstract: We studied the theory of generalized monotone variational inequalities and projection methods for solving them.

Summer School Project (for selected students)

HCMC University of Education

27 August – 17 September, 2021

HCMC, Vietnam

Topic: [Linear Support Vector Machines](#)

Advisor: Prof. Tran Thai An Nghia

Abstract: We trained and tested a linear SVM model based on two real data sets by using the subgradient method as well as writing and solving its dual problem.

Selected Attended Scientific Events

SEAMS School 2026 on Applying mathematics to real-world problems

Granted Participant

Website: <https://viasm.edu.vn/hdkh/seams2026>

Sep 04–11, 2026

Ho Chi Minh city, Vietnam

Structure-Preserving Algorithms and Geometric Numerical Integration school

Granted Participant

Website: <https://spegeo.sciencesconf.org/>

June 22–26, 2026

Strasbourg, France

Semaines d'Études Maths, Entreprises et Société (SEMES 2026)

Granted Participant

Website: <https://semes-lyon2026.sciencesconf.org/>

June 08–12, 2026

Lyon, France

47ème Congrès National d'Analyse Numérique (CANUM 2026)

Participant

Website: <https://canum2026.math.cnrs.fr/en/>

June 01–05, 2026

Saint Jacut de-la-Mer, France

4ème rencontre ANR COSS

Participant

Website: <https://idpoisson.fr/perrollaz/coss-tours/>

March 05–06, 2026

Tours, France

London Mathematical Society (LMS) Global Meeting

Granted Participant

Website: <https://viasm.edu.vn/hdkh/LMS2025>

August 27–29, 2025

VIASM, Hanoi

Modern Time-Stepping Techniques for PDEs: Splitting and Low Regularity Approaches

Participant

Website: <https://viasm.edu.vn/hdkh/Modern-Time-Stepping-Techniques-for-PDEs>

July, 2025

VIASM, Hanoi

Mini-course: Some new trends in inverse problems

Granted Participant

Website: https://viasm.edu.vn/hdkh/MC_NTIP

July 07–10, 2025

VIASM, Hanoi

Summer School in PDE and Applications 2024

Student

Syllabus: <https://viasm.edu.vn/hdkh/pde2024>

July 22–27, 2024

Saigon University, HCMC

Mini-course: Convex Analysis and Applications to Optimization

Student

Website: <https://viasm.edu.vn/hdkh/caao2023>

February 06–08, 2023

VIASM

Summer School on Optimization

Student

Syllabus: <https://docs.google.com/document/d/optimization-summer-school-syllabus>

August 2021 – September 2021

HCMUE, Ho Chi Minh City

Teaching Experience

Mathematics Teacher

Thang Tien Thang Long Education JSC

September 2023 – March 2025

Ho Chi Minh City, Vietnam

- Taught Pre-Calculus and Geometry to high school students.
- Managed lesson planning, organized learning activities, and provided academic support.
- Participated in weekly mathematics and pedagogy training with a professional team.

Teaching Intern of Mathematics

Trung Phu High School

February 2023 – April 2023

Ho Chi Minh City, Vietnam

- Taught Pre-Calculus and Geometry to high school students.
- Managed the learning procedure, prepared lesson plans, and supported students.

Teaching Intern of Mathematics

Truong Chinh High School

February 2022 – March 2022

Ho Chi Minh City, Vietnam

- Taught Pre-Calculus and Geometry; developed lesson plans and organized learning sessions.

Honors and Awards

VIASM Travel Grants for SEAMS School 2026 (covered travel and stay), in 2026.

SPEGEO Travel Grant for participating in SPEGEO, France.

SEMES 2026 Travel Grant for participating in SEMES 2026, France.

VIASM Travel Grant for Mini-course on inverse problems (covered travel and stay), in 2025. **HCMUS Travel Scholarship** covered round trip Vietnam–France for internship at a French institution (2025).

HCMUS Excellence Scholarship awarded to Master’s students with average grade over 18/20 (2024–2025).

HCMUS Entrance Scholarship granted for outstanding performance in the Master’s entrance interview (2024).

HCMUE Excellence Scholarship for the top 3% of students (2 times in 2020–2021 and 2022–2023).

Third prize in HCMUE Scientific Research Conference for Undergraduates (2021–2022).

First prize in City-Level Mathematics Competition for Excellent 12th Grade Students, Ho Chi Minh City (2018).

Technical Skills

Programming/Tools Matlab, Python, RStudio, FreeFEM++, \LaTeX

Language Proficiencies

Vietnamese Native
English Fluent (IELTS 7.0)
French Beginner

People

Prof. Olivier Ley (PhD Supervisor)

Professor at INSA Rennes & IRMAR, France

[Homepage](#), [Google Scholar](#)

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Prof. H el ene Hivert (PhD Co-supervisor)

Junior professor chair at G eosciences Rennes

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Prof. Othmane Jerhaoui (PhD Co-supervisor)

Associate Professor at INSA Rennes & IRMAR, France

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Prof. Mounir Haddou (Master Thesis Supervisor)

Professor at INSA Rennes & IRMAR, France

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