Quang-Duc Dao

Curriculum Vitae

Contact Information

Address	Institut de Mathématiques de Jussieu - Paris Rive Gauche, Sorbonne Université, 4 place Jussieu, 75252 Paris cedex 05, France
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Employment

Sept. 2022 – Present	Full-time Temporary Teaching and Research Assistant (ATER) in Mathematics at Sorbonne University (Paris, France).
Oct. 2019 – Aug. 2022	Contractual PhD Candidate in Mathematics at Sorbonne University in the COFUND MathInParis program of the *Fondation Sciences Mathématiques de Paris* (France).

Education

2019 – 2023	**PhD in Mathematics**, *Sorbonne University, IMJ-PRG*, Paris, France, *COFUND MathInParis Program*. Research Area: Arithmetic Geometry
2018 – 2019	**Master of Science**, *Sorbonne University*, Paris, France, *PGSM Master 2 Program*. Field of Study: Pure Mathematics
2014 – 2018	**Bachelor of Science**, *VNU University of Science*, Hanoi, Vietnam, *Talented Program in Mathematics*. GPA: 3.89/4.0 – Grade: High Distinction

Master's Thesis

Title	*Arithmetic of Markoff surfaces*
Advisor	Associate Professor Cyril Demarche
Defense	June 26, 2019 at Sorbonne University

PhD Thesis

Title	*Local-global principle for integral points on certain algebraic surfaces*
Advisor	Associate Professor Cyril Demarche
Defense	July 5, 2023 at Sorbonne University

Research Interests

Arithmetic Geometry, Algebraic Geometry, Number Theory

Publications

- Quang-Duc Dao, *Brauer–Manin obstruction for integral points on Markoff-type cubic surfaces*, Journal of Number Theory **254** (2024), Pages 65-102, DOI: `https://doi.org/10.1016/j.jnt.2023.07.007`.

Preprints

- Quang-Duc Dao, *Brauer–Manin obstruction for Wehler K3 surfaces of Markoff type*, preprint (2023), submitted, available at `arXiv:2302.11515`.

Honors, Awards, and Prizes

- PhD fellowship in the COFUND MathInParis program of the *Fondation Sciences Mathématiques de Paris* (France), Oct. 2019 – Aug. 2022
- PGSM Master scholarship from the *Fondation Sciences Mathématiques de Paris* (France), Sept. 2018 – Aug. 2019
- Valedictorian graduated from the VNU University of Science (Vietnam), June 2018
- First prize in Algebra in the National Mathematical Olympiad for Undergraduate Students, Quy Nhon University (Vietnam), Apr. 2016
- Second prize in Analysis in the National Mathematical Olympiad for Undergraduate Students, Quy Nhon University (Vietnam), Apr. 2016
- Second prize in Analysis in the National Mathematical Olympiad for Undergraduate Students, Hue College of Economics (Vietnam), Apr. 2015
- Scholarships granted by the National Program for the Development of Mathematics from 2010 to 2020 (Vietnam) in the four academic years: 2012 – 2013, 2013 – 2014, 2015 – 2016, and 2016 – 2017

Presentations

May 2022 — *Brauer–Manin obstruction for Markoff-type cubic surfaces*, BROWNING GROUP Working Seminar, Institute of Science and Technology Austria (online).

Nov. 2021 — *Descent and local-global principle for integral points on certain algebraic varieties*, Presentation on the PhD project and training experiences at the MathInParis Conference, Institut Henri Poincaré (Paris, France).

June 2021 — *Brauer–Manin obstruction for integral points on Markoff surfaces*, Meeting for PhD students of the *Topologie et Géométrie Algébriques* team at Sorbonne University (Paris, France).

Nov. 2020 — *Descent and local-global principle for integral points on certain algebraic varieties*, Presentation on the PhD project and main activities at the COFUND Project MathInParis Annual Meeting (online).

Nov. 2019	*Descente et principe local-global pour les points entiers sur certaines variétés algébriques*, Presentation on the PhD project at the COFUND MathInParis Mid-Term Meeting at Sorbonne University (Paris, France).
Sept. 2019	*Brauer–Manin obstruction for curves and surfaces*, Seminar on Brauer group and Brauer–Manin obstruction, Institute of Mathematics of Hanoi (Vietnam).

Research Experience

Sept. 2022 – Present	ATER in Pure Mathematics at Sorbonne University (Paris, France). **Research Topic:** Completion of the PhD thesis (defended on July 5, 2023), followed by some natural continuation in the study of descent and Brauer–Manin obstructions for rational and integral points on algebraic varieties.
June – Aug. 2020	COFUND MathInParis Mobility research program of the *Fondation Sciences Mathématiques de Paris* at the Institute of Mathematics of Hanoi (Vietnam). **Research Topic:** "Descent obstructions and Brauer–Manin obstruction in positive characteristic" (following work of Prof. David Harari and Prof. José Felipe Voloch) under the supervision of Dr. Nguyen Duy Tan.
Oct. 2019 – Aug. 2022	Contractual PhD Candidate in Mathematics at Sorbonne University (Paris, France). **Research Topic:** "Local-global principle for integral points on certain algebraic surfaces" under the supervision of Assoc. Prof. Cyril Demarche.

Teaching Experience

Sept. 2022 – Present	Teaching tutorials for undergraduate students at Sorbonne University (Paris, France): ○ Fall Semester 2023 (present): LU2MA221, *Algèbre linéaire et bilinéaire I* (Linear and Bilinear Algebra I). ○ Spring Semester 2023: LU1MA002, *Mathématiques pour les études scientifiques II* (Mathematics for Scientific Studies II); LU1MA003, *Mathématiques approfondies* (Advanced Mathematics). ○ Fall Semester 2022: LU2MA221, *Algèbre linéaire et bilinéaire I* (Linear and Bilinear Algebra I).

Languages

- Vietnamese – Native
- English – Advanced (CEFR level C1)
- French – Upper Intermediate (CEFR level B2)

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