Quoc P. Ho

IST Austria
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IST Austria
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Employment

2017–present **Postdoctoral researcher**,
Tamas Hausel's group
Institute of Science and Technology Austria, Klosterneuburg, Austria.

Education

2011–2017 **PhD Candidate in Mathematics**,
University of Chicago, Chicago, IL.
MSc in Mathematics awarded in 2012.
PhD in Mathematics awarded in 2017
Advisors: Ngô Bao Châu, Dennis Gaitsgory.
Interests: Algebraic Geometry, Number Theory, Representation Theory.
Thesis: Free factorization algebras and homology of configuration spaces in algebraic geometry

2007–2011 **AB in Mathematics**,
Princeton University, Princeton, NJ.
Graduated with High Honors. Member of Phi Beta Kappa.

2005–2007 **International Baccalaureate (IB)**,
Lester B. Pearson UWC, Victoria, BC, Canada.

Papers

Densities and stability in algebraic geometry via factorization homology.

The Atiyah-Bott formula and connectivity in chiral Koszul duality.

Free factorization algebras and homology of configuration spaces in algebraic geometry, *Selecta Mathematica (N.S.), Vol. 23 (2017), No. 4, pp. 2437–2489*.

Average Size of 2-Selmer Groups of Ellipitic Curves over Function Fields, with B.V.H. Lê and B.C. Ngô, *Mathematical Research Letters, Vol. 21 (2014), No. 6, pp. 1305–1339*.

Invited Lecture Series

2019 Harbin Institute of Technology, China.
Lecture series on factorization homology and homological densities (2 lectures)

Cambridge University, UK.
Lecture series on factorization homology and homological densities (4 lectures)

Pohang University of Science and Technology (POSTECH), South Korea.
Lecture series on factorization homology and number theory over function fields (4 lectures)

Invited Talks

2019 University of Edinburgh, Geometric representation theory and low-dimensional topology.

2018 Université Paris Diderot, Local Geometric Langlands Conference.
Factorizable algebras and categories (expository)

Université Paris Diderot, Algebraic Geometry Seminar.

National University of Singapore, Pan Asian Number Theory Conference.

Kavli IPMU Japan, Vertex Algebras, Factorization Algebras and Applications Conference.

ETH Zürich, Algebraic Geometry Seminar.

2017 Duke University, Number Theory Seminar.

IST Austria, Algebraic Geometry Seminar.

2016 Northwestern University, Topology Seminar.

Rice University, Algebraic Geometry/Number Theory Seminar.

Purdue University, Topology Seminar.

2015 University of Wisconsin-Madison, Number Theory Seminar.

2014 MSRI, Geometric Representation Theory Semester.
Working group on the Geometric Satake isomoprhism (expository).

2013 VIASM, Pan Asian Number Theory Conference.

2012 Vietnam Institute for Advanced Study in Mathematics (VIASM) Summer School.
The work of Bhargava-Shankar (expository).

Prizes and Scholarships

2019–2021 Lise-Meitner Post-doctoral Fellowship (159340 €).

2011–2013 McCormick Fellowship for Graduate Students.

2007–2011 Davis Fellow, *Full 4-year scholarship (tuition, room and board) to attend Princeton University*.

— Third prize, *International Mathematics Competition for University Students*, Budapest, Hungary.

— Shapiro Prize for Academic Excellence.

— German Book Prize.

2005–2007 *Full 2-year scholarship (tuition, room and board) to attend Lester B. Pearson UWC*.

2005 Second Prize, *National Mathematics Olympic of Vietnam*.

— Gold Medal, *Mathematics Olympic of South Vietnam*.

Conferences Attended

2019 University of Edinburgh, Scotland,
Geometric representation theory and low-dimensional topology.

MSRI, Berkeley,
Derived algebraic geometry and its applications.

Erwin Schrödinger Institute, Vienna,
Categorification in Quantum Topology and Beyond.

2018 IST Austria,
Summer School on Geometric Representation Theory.

National University of Singapore,
Pan Asian Number Theory Conference.

Kavli IPMU Japan,
Vertex Algebras, Factorization Algebras and Applications Conference.

Université Paris Diderot,
Local Geometric Langlands Conference.

2014 MSRI, Berkeley,
Categorical Structures in Harmonic Analysis.

MSRI, Berkeley,
Introductory Workshop: Geometric Representation Theory.

Institute for Advanced Studies, Hebrew University of Jerusalem,
Towards the proof of the geometric Langlands conjecture.

2013 Vietnam Institute for Advanced Study in Mathematics (VIASM),
Pan Asian Number Theory Conference.

The University of Arizona,
Arizona Winter School 2013: Modular forms and modular curves.

2012 Vietnam Institute for Advanced Study in Mathematics (VIASM),
Summer School on the work of Bhargava–Shankar.

Teaching Experience

2014–2017 **Lecturer**, *University of Chicago*, Chicago, IL.
MATH 195: Multi-variable Calculus (4 times),
MATH 196: Linear Algebra (3 times).

2013–2014 **Lecturer**, *University of Chicago*, Chicago, IL.
MATH 130s: Freshman Calculus sequence (3 quarters).

2012–2013 **College Fellow**, *University of Chicago*, Chicago, IL.
MATH 160s: Freshman Honors Calculus sequence (3 quarters), IBL (inquiry-based learning) style.

Other Activities

Referee, *Advances in Mathematics*.

Reviewer, *zbMATH (formerly Zentralblatt MATH)*.

2014–2016 **Mentor**, *DRP: Directed Reading Program*.
Supervised undergraduate student participants doing independent studies.
Projects supervised: algebraic topology, de Rham cohomology, Galois theory and fundamental groups via Grothendieck's fiber functor formalism.

Summer 2014 **Mentor**, *University of Chicago's Mathematics REU*.
Supervised undergraduate student participants doing independent studies.
Projects supervised: Galois theory, fundamental groups, de Rham cohomology

2013–2014 **Co-organizer**, *Graduate Student Seminar on ℓ-adic Cohomology*.

2012–2013 **Co-organizer**, *Graduate Student Seminar (General Topic)*.

Additional Information

Languages Vietnamese (native), English (fluent), German (intermediate), French (reading knowledge).

Interests and Skills Programming (Scala, Java, Python, C), Music Composition and Performance, LaTeX, Table Tennis.