

# LAM PHAM

YALE UNIVERSITY  
Department of Mathematics  
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Citizenship: French, U.S. Permanent Resident.

## Academic Positions

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**Brandeis University** 2019-2022  
Instructor of Mathematics

## Education

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**Yale University**  
Ph.D, *Mathematics*, advisors: 2013-2019 (*expected*)  
Gregory Margulis (Yale University)  
Emmanuel Breuillard (University of Cambridge)  
M.Phil., *Mathematics* 2016  
M.S., *Mathematics* 2015

**Stanford University**  
M.S., *Computational and Mathematical Engineering (iCME)* 2013

**École Centrale Paris**  
Diplôme d'Ingénieur des Arts et Manufactures 2011  
M.S., *Energy and Aerospace Engineering*, Honors 2010  
Supervisor: Prof. Christophe Laux (EM2C), Thesis: "*Plasma Assisted Combustion*"

## Research Interests

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I am broadly interested in *Discrete Subgroups of Lie Groups* and *Arithmetic Groups*. More specifically, I am interested in the following aspects:

- (i) Analysis: Harmonic Analysis and Representation Theory, Ergodic Theory, Homogeneous Dynamics;
- (ii) Geometry: Geometric Group Theory, Asymptotic Group Theory;
- (iii) Number Theory: Diophantine Analysis and Geometry; Arithmetic Combinatorics.

## Awards and Honors

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Berthe Corr and James Corr Memorial Fellowship (Yale University) 2014-2015  
Yale University Graduate Fellowship 2013-2018

## Preprints & Publications

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1. Uniform Kazhdan constants and paradoxes of the affine plane, *preprint* arXiv:1904.02604

## Invited Talks

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\* =upcoming / tentative

**2019**

- Yale University, Group Actions and Dynamics Seminar Apr 8  
 Wesleyan University, Topology et al. seminar Apr 3

**2018**

- Cambridge University, Discrete Analysis Seminar Nov 21  
 Rutgers University Number Theory Seminar Oct 30  
 New York Group Theory Seminar (CUNY Magnus Seminar) Oct 26

**2016**

- Yale University Junior Colloquium pre-talk Apr 22  
 University of Münster Logic seminar Jan 21

## Visits and Conferences

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\* = *upcoming / tentative*

**2019**

- \* ICERM, Brown University Nov 11-15  
*Illustrating Dynamics and Probability*
- \* MSRI Berkeley Summer Graduate School June 10-21  
*Random and arithmetic structures in topology*
- \* Bowdoin College June 4-6  
*Boundaries of Random Walks and Applications*
- \* Cretaro, Italy May 27-31  
*Dynamique d'actions de groupes, une conférence en l'honneur d'Yves Benoist*
- University of Cambridge Mar 25-29  
*Number Theory and Dynamics Conference 2019*
- The Hebrew University of Jerusalem Feb 17-21  
*Super Strong Approximation in Groups workshop*

**2018**

- Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach Oct 7 - 12  
*Arbeitsgemeinschaft: Rigidity of Stationary Measures*
- Stanford University May 18 - 20  
*The Mathematical Legacy of Maryam Mirzakhani*
- ICERM, Brown University Apr 23 - 27  
*Computational Challenges in the Theory of Lattices*
- Institut Henri Poincaré Jan 29 - Feb 2  
*Workshop Model Theory and Combinatorics*

**2017**

- Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach Oct 8 - 13  
*Arbeitsgemeinschaft: Additive Combinatorics, Entropy, and Fractal Geometry*
- Isaac Newton Institute for Mathematical Sciences, Cambridge May 8 - 12  
*Approximation, Deformation, Quasification*

- Northwestern University  
*Spring School on Analysis on Groups and Measured Group Theory* Apr 3 - 7
- Mathematical Institute, Oxford  
*Young Geometric Group Theory Meeting VI* Mar 20 - 24
- 2016**
- Israel Institute for Advanced Studies, Jerusalem  
*The 20th Midrasha Mathematicae, 60 Faces to Groups, a conference in honor of Alexander Lubotzky's 60th birthday* Nov 6 - 11
- Institut Henri Poincaré, Paris  
*Dynamics, Geometry and Number Theory, a conference in honor of Gregory Margulis' 70th birthday* Jun 13 - 17
- Institute for Advanced Study, Princeton  
*Analysis and Beyond: Celebrating Jean Bourgain's Work and Impact* May 21 - 24
- Institute for Advanced Study, Princeton  
*Thin Groups and Superapproximation in Geometry and Arithmetic* Mar 28 - Apr 1
- The Southwest Center for Arithmetic Geometry, University of Arizona  
*Arizona Winter School: Analytic Methods in Arithmetic Geometry* Mar 12-17, 2016
- ICERM, Brown University  
*Ergodic, Algebraic and Combinatorial Methods in Dimension Theory* Feb 15 - 19
- ICERM, Brown University, Mini-Course  
*Equidistribution and Dimension via Additive Combinatorics (Elon Lindenstrauss)* Feb 11 - 12
- 2015**
- Texas A&M University  
*Geometric and Probabilistic Methods in Group Theory and Dynamical Systems* Nov 9 - 12
- École Normale Supérieure, Paris  
*Growth, Symbolic Dynamics and Combinatorics of Words in Groups* Jun 1 - 5
- University of Notre Dame, Mini-Courses  
*Thematic Program on Boundaries and Dynamics (Part of the International Conference on Boundaries and Ergodic Geometry)* May 26 - 29
- CUNY Graduate Center  
*Combinatorial and Additive Number Theory* May 19 - 22
- IMA Annual Program Year Workshop, University of Minnesota  
*Analytic Tools in Probability, and Applications* Apr 27 - May 1, 2015
- ICERM, Brown University  
*Mathematics of Lattices and Cryptography* Apr 21-24
- 2014**
- IMA Annual Program Year Workshop, University of Minnesota  
*Additive and Analytic Combinatorics* Sep 29 - Oct 3
- Cornell University  
*10th Cornell University Probability Summer School* Jul 14-25
- ICERM, Brown University  
*Electrical Flows, Graph Laplacians, and Algorithms: Spectral Graph Theory and Beyond* Apr 7-11

## Service

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### Yale University

Directed Reading Program (co-organizer, with Thomas Hille)	Spring 2016
Graduate Student Seminar (organizer)	Spring 2015

## Teaching

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### Brandeis University

Introduction to Combinatorics (MATH 39a)	Fall 2019
Introduction to Real Analysis, Part II (MATH 110b)	Spring 2020
Lie Groups (MATH 224b)	Spring 2020

### Yale University

#### Section Instructor

Calculus of Functions of Several Variables (MATH 120)	Fall 2018
Calculus of Functions of One Variable II (MATH 115)	Fall 2016 & 2017

#### Lead Instructor

Calculus of Functions of One Variable II (MATH S115)	Summer 2016 & 2018
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#### Graduate Mentor, Directed Reading Program

Lie groups and Lie algebras (with Thomas Hille)	Spring 2016
Undergraduate student mentored: Max Weinreich	
Expansion in finite simple groups of Lie type	Spring 2016
Undergraduate student mentored: Alex Atanasov	

#### Coach

Calculus of Functions of One Variable II (MATH 115)	Fall 2015
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#### Teaching Fellow

Vector Calculus and Linear Algebra (MATH 231), Giulio Tiozzi	Spring 2015
Calculus of Functions of One Variable II (MATH 115), Asher Auel	Fall 2013

### Stanford University

#### Teaching Assistant (G/U, Graduate, Undergraduate).

Numerical Methods (CME 206, G), Gianluca Iaccarino	Spring 2012
ODEs for Engineers (CME 102, U), Eric Darve	Winter 2012
Vector Calculus for Engineers (CME 100, U), Eric Darve	Fall 2011

## Languages

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Native: French, Vietnamese

Fluent: English (Cambridge CPE, TOEFL IBT 115/120).

## Computer Skills

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Python, Matlab, Mathematica.