

CONTACT INFORMATION	Department of Mathematics Caltech MC 253-37, Pasadena, CA 91106	Email: lyyang@caltech.edu Webpage: http://pma.caltech.edu/liyang Office: Lindner Hall 259
EDUCATION	Caltech , Pasadena, CA, USA Ph.D. , Mathematics. <i>Expected Graduation: 2021</i> Advisor: Dr. Dinakar Ramakrishnan Tsinghua University , Beijing, China B.S. , Mathematics, July 2016	
RESEARCH INTERESTS	Number Theory, Representation Theory, Arithmetic Geometry and Langlands Program	
PUBLICATION	<ol style="list-style-type: none"> 1. <i>Average of Dirichlet Coefficients of Cuspidal Representations Related to $GL(2)$</i>. To appear in The Ramanujan Journal (2020). 2. (with Dinakar Ramakrishnan) <i>A Constraint for Twist Equivalence of Cusp Forms on $GL(n)$</i>. To appear in <i>Functiones et Approximatio Commentarii Mathematici</i>, (2020). 3. <i>An Explicit CM Type Norm Formula and Effective Nonvanishing of Class Group L-functions for CM Fields</i>, Pacific Journal of Mathematics 304.1 (2020): 347-384. 4. <i>Diophantine Inequalities Involving a Prime and an Almost-prime</i>, Journal of Number Theory, 170 (2017), 347-367. 5. (with Daniel Goldston) <i>The Average Number of Goldbach Representations</i>, in <i>Prime numbers and representation theory</i>, Lecture Series of Modern Number Theory, volume 2, (2017), 1-12. 	
PREPRINTS	<ol style="list-style-type: none"> 1. (with Philippe Michel and Dinakar Ramakrishnan) <i>Average Central L-values on $U(3) \times U(2)$, Nonvanishing and Subconvexity</i>. Preprint. 2. (with Maksym Radziwill) <i>Nonvanishing of Twists of $GL(4)$ L-functions</i>. Preprint. 3. (with Liubomir Chiriac) <i>Summing Hecke Eigenvalues over Polynomials</i>. Submitted. 4. <i>Holomorphy of Adjoint L-functions for $GL(n) : n \leq 4$</i>. Submitted. 5. <i>A Coarse Jacquet-Zagier Trace Formula for $GL(n)$ with Applications</i>. Submitted. 6. <i>Arithmetic Distribution of Tempered Components of Cuspidal Representations on $GL(3)$</i>. Preprint. 	
INVITED SEMINAR TALKS	<i>Average Central L-values on $U(3) \times U(2)$, Nonvanishing and Subconvexity</i> Number Theory / Representation Theory Seminar, University of Wisconsin - Madison <i>Holomorphy of Adjoint L-functions for $GL(n) : n \leq 4$</i> Fields Number Theory Seminar, Toronto <i>Analytic Continuation of Certain L-functions</i> Junior Number Theory Days, Johns Hopkins University <i>Holomorphy Conjectures on Certain L-functions</i> Number Theory Seminar, University of California, Irvine, CA	Oct 1, 2020 Jul 15, 2020 Dec 7, 2019 Nov 21, 2019

	<i>Holomorphic Continuation of Certain L-functions via Trace Formula</i> Number Theory Seminar, University of Wisconsin-Madison	Nov 14, 2019
	<i>When Fourier Expansion Meets Spectral Decomposition</i> Number Theory Seminar, École polytechnique fédérale de Lausanne	Sep 26, 2019
	<i>Jacquet-Zagier Trace Formula with Applications in Langlands Program</i> Automorphic representations and Langlands program, Soochow University	Jul 24, 2019
	<i>Moments of Fourier Coefficients of Symmetric Power Representations</i> Number Theory Seminar, Zhejiang University, Hangzhou, China	Jul 15, 2019
	<i>Analytic Continuation of Twisted Adjoint L-functions</i> ICCM 2019, Tsinghua University, Beijing, China	Jun 13, 2019
	<i>Effective Nonvanishing of Class Group L-functions for CM Fields</i> Number Theory Seminar, École polytechnique fédérale de Lausanne	May 22, 2019
CONFERENCE TALKS	<i>Fourier Coefficients of Symmetric Power Representations with Applications</i> Number Theory Series in Los Angeles I , Occidental College	Oct 27, 2019
	<i>Holomorphic Continuation of Adjoint L-functions via Trace Formula</i> Boston University/ Keio University Workshop 2019, Boston University	Jun 27, 2019
	<i>Modulus Distribution of Local Hecke Traces for $GL(n) : n \leq 4$</i> 2019 Upstate Number Theory Conference, Cornell University	Apr 27, 2019
	<i>Modulus Distribution of Local Hecke Traces</i> TORA X, University of North Texas	Apr 06, 2019
	<i>Arithmetic Distribution of Tempered Components of Cuspidal Representations</i> 33rd Automorphic Forms Workshop, Duquesne University	Mar 10, 2019
	<i>Arithmetic Applications of Eisenstein Periods</i> 32nd Automorphic Forms Workshop, Tufts University	Mar 21, 2018
INVITED VISITS	Academic Guest at École polytechnique fédérale de Lausanne	Sep 15-Oct 15, 2019
	Visitor at Morningside Center of Mathematics, Beijing, China	Jul 30-Aug 6, 2019
	Visitor at École polytechnique fédérale de Lausanne	May 20-26, 2019
DEPARTMENTAL SEMINAR TALKS	<i>Bilinear Restriction and Parabolic Rescaling</i> Decoupling Learning Seminar, Caltech	Nov 08, 2018
	<i>An Introduction to Braverman-Kazhdan-Ngo's Program</i> Graduate Student Number Theory Seminar, Caltech	Aug 20, 2018
	<i>Real Sheaves and Rankin-Selberg Method</i> Reading Seminar on Deligne's Weil II Paper, Caltech	Mar 09, 2018
	<i>The Selberg Trace Formula and Jacquet-Langlands Correspondence</i> MSRI summer school on Langlands program (reading group talks)	Aug 03, 2017
	<i>Vanishing Cycles in Drinfeld's Proof of Geometric Langlands for GL_2 : Part II</i> Algebraic Geometry Seminar, Caltech	May 22, 2017

Vanishing Cycles in Drinfeld's Proof of Geometric Langlands for GL_2 : Part I May 15, 2017
 Algebraic Geometry Seminar, Caltech

Converse Theorems for GL_n : Part II Feb 15, 2017
 Number Theory Seminar, Caltech

Converse Theorems for GL_n : Part I Feb 8, 2017
 Number Theory Seminar, Caltech

Decoupling Theory with Applications in Analytic Number Theory Oct 13, 2016-May 25, 2017
 Reading Seminar with N. Katz, Caltech

POSTER SESSION *Holomorphy of Adjoint L-functions for $GL(n)$: $n \leq 4$* Feb 23, 2019
 Linde Hall Inaugural Math Symposium, Caltech

CONFERENCES ATTENDED **Junior Number Theory Days** Dec 7-8, 2019
 Johns Hopkins University, Baltimore, Maryland

Number Theory Series in Los Angeles I Oct 26-27, 2019
 Occidental College, Los Angeles, CA

Automorphic representations and Langlands program Jul 22-26, 2019
 Soochow University, Jiangsu, China

Boston University /Keio University Workshop 2019 Jun 24-28, 2019
 Boston University, Boston

International Congress of Chinese Mathematicians Jun 11-14, 2019
 Tsinghua University, Beijing, China

Ninth Annual Upstate Number Theory Conference Apr 27-28, 2019
 Cornell University, Ithaca

Texas-Oklahoma Representations and Automorphic Forms X Apr 05-07, 2019
 University of North Texas, Dallas

Hawaii Number Theory 2019 (HINT 2019) Mar 18-21, 2019
 University of Hawai'i at Mānoa, Honolulu

33rd Automorphic Forms Workshop Mar 06-10, 2019
 Duquesne University, Pittsburgh

Linde Hall Inaugural Math Symposium Feb 22-24, 2019
 Caltech, Pasadena

33rd Automorphic Forms Workshop Mar 06-10, 2019
 Duquesne University, Pittsburgh

Sixth Abel Conference: A Mathematical Celebration of Robert P. Langlands Nov 14-16, 2018
 IMA, University of Minnesota

32nd Automorphic Forms Workshop Mar 19-22, 2018
 Tufts University

2017 Midwest Representation Theory Conference Oct 20-22, 2017
 Purdue University

	Recent Developments in Analytic Number Theory MSRI	May 01-05, 2017
	The 7th International Congress of Chinese Mathematics Chinese Academy of Sciences, Beijing, China	Aug 06-11, 2016
SUMMER & WINTER SCHOOLS	MSRI Summer School: Random and Arithmetic Structures in Topology Mathematical Sciences Research Institute, Berkeley, CA, USA	Jun 10-21, 2019
	On the Langlands Program: Endoscopy and Beyond National University of Singapore, Singapore	Dec 17, 2018-Jan 18, 2019
	L-functions: Open Problems and Current Methods Hausdorff Center for Mathematics, Bonn, Germany	Jun 25-29, 2018
	Arizona Winter School 2018: Iwasawa Theory University of Arizona, Tucson, AZ, USA	Mar 3-7, 2018
	MSRI Summer School: Automorphic Forms and the Langlands Program Mathematical Sciences Research Institute (MSRI), Berkeley, CA, USA	Jul 24-Aug 4, 2017
TA EXPERIENCE	Math 2 Differential Equations	Fall 2016
	Math 3 Introduction to Probability and Statistics	Winter 2016
	Math 1c Calculus of One and Several Variables and Linear Algebra	Spring 2017
	Math 110a Analysis	Fall 2017
	Math 110b Analysis	Winter 2017
	Math 110c Analysis	Spring 2018
	Math 120c Abstract Algebra	Spring 2018
	Math 108a Classical Analysis	Fall 2018
	Math 108b Classical Analysis	Winter 2018
	Math 108c Classical Analysis	Spring 2019
	Math 6a Introduction to Discrete Mathematics	Fall 2019
	Math 1c Calculus of One and Several Variables and Linear Algebra (Head TA)	Spring 2020
ACADEMIC SERVICE	Reviewer for Mathematical Reviews (MR)	
AWARDS & HONORS	Scott Russell Johnson Fellow	Summer 2019
	Johnson Graduate Research & Teaching Prize	May 2019
	Johnson Graduate Research & Teaching Prize	May 2018
	Johnson First-Year Graduate Student Prize	May 2017
	Gold Medal of New World Mathematics Awards (Bachelor Thesis Awards)	Aug 2016