Chen Wan

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Citizenship: China

Year of Birth: 1994

Education

- **B.S.**   Department of Mathematics, Nanjing University.   2009-2013

- **Ph.D.(Advisor: Dihua Jiang)**   School of Mathematics, University of Minnesota. 2013-2017

Research Interests

Automorphic Forms, Representation Theory, Trace Formula, L-Functions.

Employment

- Member, Institute for Advanced Study   2017-2018

- C.L.E. Moore Instructor, Massachusetts Institute of Technology   2018-2020

- Assistant Professor, Rutgers University-Newark   2020-present

Publications

[1] *A local relative trace formula for the Ginzburg-Rallis model: the geometric side.* **Memoirs of the AMS** Volume 261, Number 1263.

[2] *Multiplicity one theorem for the Ginzburg-Rallis Model: the tempered case.* **Trans. Amer. Math. Soc.** 371 (2019), 7949-7994.

[3] *The local Ginzburg-Rallis model over complex field.* **Pacific Journal of Mathematics** 291-1 (2017), 241-256.

[4] *A Local Trace Formula and the Multiplicity One Theorem for the Ginzburg-Rallis Model.* Ph.D. thesis, 2017. 226 pages

[5] *A Local Trace formula for the Generalized Shalika Model,* with Raphael Beuzart-Pleassis. **Duke Mathematical Journal** Volume 168, Number 7 (2019), 1303-1385.

[6] *The Local Ginzburg-Rallis Model for Generic Representations.* **J. Number Theory** 198 (2019), 74-123.

[7] *A G_2-period of a Fourier coefficient of an Eisenstein series on E_6,* with Aaron Pollack and Michał Zydor. **Israel Journal of Mathematics 234** (2019), 229-279.

[8] *The multiplicity problems for the unitary Ginzburg-Rallis models,* with Lei Zhang. **Israel Journal of Mathematics**, Volume 258, pages 185-248.

[9] *On the residue method for period integrals,* with Aaron Pollack and Michał Zydor. **Duke Mathematical Journal** Volume 170, Number 7 (2021), 1457-1515.

[10] *On a multiplicity formula for spherical varieties.* **J. Eur. Math. Soc.** 24 (2022), no. 10, 3629-3678

[11] *Periods of automorphic forms associated to strongly tempered spherical varieties,* with Lei Zhang. Accepted by **Memoirs of the American Mathematical Society**, 109 pages.

[12] *A multiplicity formula of K-types.* Submitted, 2021. 41 pages. arXiv:2110.10744

[13] *Multiplicities for strongly tempered spherical varieties,* with Lei Zhang. Submitted, 2022. 116 pages. arXiv:2204.07977

[14] *A Conjecture for Multiplicities of Strongly Tempered Spherical Varieties,* with Lei Zhang. Submitted, 2023. 17 pages. arXiv:2308.11425

[15] *BZSV duality for some strongly tempered spherical varieties,* with Zhengyu Mao and Lei Zhang. Submitted, 2023. 30 pages. arXiv:2310.17836

[16] *A local twisted trace formula for Whittaker induction of coregular symmetric pairs: the geometric side,* with Raphael Beuzart-Pleassis. Submitted, 2024. 137 pages. arXiv:2312.10845

[17] *Strongly tempered BZSV quadruples,* with Zhengyu Mao and Lei Zhang. Preprint, 2024, 40 pages. arXiv:2405.17699

Grants

2024-2027 National Science Foundation DMS-2349836 "Local and Global Problems in the Relative Langlands Program", amount $174,000

2020-2024 National Science Foundation DMS-2000192 (later transfered to DMS-2103720) "Multiplicities and Period Integrals for Spherical Varieties", amount $159,159

Honors and Awards

2017   Silver medal, New World Mathematics Award, Doctoral Thesis Award.

2017   IAS membership for academic year 2017-2018.

2013   First prize of Bachelor Thesis in Nanjing University.

2011,2012   Mount Everest Plan Scholarship in Nanjing University.

Journal Referee

Advances in Mathematics, Algebra & Number Theory, Annals of Mathematics, Compositio Mathematica, Crelles Journal, Documenta Mathematica, Duke Mathematical Journal, International Mathematics Research Notices, Inventiones Mathematicae, Manuscripta Mathematica, Memoirs of the American Mathematical Society, Notices of the American Mathematical Society, Proceedings of the London Mathematical Society, Research in Number Theory, Simons Proceedings Volume, Transactions of the American Mathematical Society.

Teaching experience

Spring 2024	Algebra II (Rutgers University-Newark)
Fall 2023	College Algebra, Algebra I (Rutgers University-Newark)
Spring 2023	College Algebra (Rutgers University-Newark)
Spring 2022	Advanced Topics in Number Theory (Rutgers University-Newark)
Fall 2021	Statistics I, Advanced Topics in Representation Theory (Rutgers University-Newark)
Fall 2020	Calculus I, Calculus II (Rutgers University-Newark)
Spring 2020	18.781: Theory of Numbers (Massachusetts Institute of Technology)
Fall 2019	18.02: Calculus (Massachusetts Institute of Technology)
Spring 2019	18.03: Differential Equations (Massachusetts Institute of Technology)
Fall 2018	18.02: Calculus (Massachusetts Institute of Technology)
Fall 2016	Math 1371: CSE Calculus I (University of Minnesota)
Spring 2016	Math 1372: CSE Calculus II (University of Minnesota)
Fall 2015	Math 1371: CSE Calculus I (University of Minnesota)
Spring 2015	Linear Algebra and Differential Equations (University of Minnesota)
Fall 2014	Multivariable Calculus (University of Minnesota)
Spring 2014	Cauculus I (University of Minnesota)
Fall 2013	Calculus I (University of Minnesota)

Invited Talks

July 2024	Workshop on Real reductive groups and Theta correspondence, Kunming, China.
June 2024	Simons Symposium on Periods and L-values of Motives, Schloss Elmau, Germany.

June 2024	Summer School and Workshop on Relative Langlands Duality, University of Minnesota, Minneapolis.
April 2024	Special Session on Automorphic Forms and Trace Formulae, AMS 2024 Spring Eastern Sectional Meeting, Howard University.
February 2024	Duke Number Theory Seminar, Duke University, Durham.
January 2024	RIMS conference "Research on automorphic forms", Kyoto, Japan
November 2023	Princeton/IAS Number Theory Seminar, Princeton
June 2023	Number Theory and Representation Theory seminar, Zhejiang University, Hangzhou.
May 2023	Lecture series in Nanjing University, Nanjing, China.
January 2023	University of Arizona Algebra and Number Theory Seminar, Tucson
January 2023	Special Session on Automorphic Forms and Representation Theory, AMS Joint Mathematics Meetings 2023, Boston
November 2022	Math Colloquia at University of Minnesota, Minneapolis.
October 2022	Séminaire Représentations des Groupes Réductifs, Institut de Mathématiques de Marseille, France.
September 2022	Johns Hopkins Number Theory Seminar, Baltimore.
August 2022	Number theory seminar and representation theory seminar at University of Melbourne, Melbourne, Australia
April 2022	Joint Berkeley-Caltech-Stanford Number Theory (online)
February 2022	The 7th KTGU Mathematics Workshop for Young Researchers (online), Kyoto, Japan.
January 2022	Periods, functoriality and L-functions, CIRM (online), Luminy, France.
November 2021	Number theory seminar at Rutgers-New Brunswick (online).
November 2021	Lecture series at Academy of Mathematics and Systems Science (online), Beijing, China.
November 2021	Basic Functions, Orbital Integrals, and Beyond Endoscopy, BIRS workshop (online), Banff, Canada.
May 2021	Relative Aspects of the Langlands Program, L-Functions and Beyond Endoscopy, CIRM (online), Luminy, France
March 2021	Special Session on Recent Developments in Automorphic Representations, AMS Section Meeting (online)
September 2020	Representation Theory and Number Theory seminar (online) at National University of Singapore, Singapore.
January 2020	Mathematics Colloquium at Rutgers-Newark, Newark.
January 2020	Séminaire Représentations des Groupes Réductifs, Institut de Mathématiques de Marseille, France.

November 2019	Number Theory Seminar, Cornell University, Ithaca.
October 2019	Duke Number Theory Seminar. Duke University, Durham.
October 2019	New Developments in Representation Theory of p-adic Groups, MFO, Oberwolfach.
September 2019	Special Session on Automorphic Forms and L-Functions. AMS Section Meeting, University of Wisconsin-Madison.
June 2019	The 8th International Congress of Chinese Mathematicians, Beijing, China.
January 2019	On the Langlands Program: Endoscopy and Beyond, Institute for Math. Sciences, National University of Singapore, Singapore.
November 2018	BC Number Theory/Algebraic Geometry Seminar, Boston College, Boston.
October 2018	Number Theory / Representation Theory Seminar, University of Wisconsin-Madison.
June 2018	Number Theory Seminar at Nanjing University, Nanjing, China.
June 2018	Workshop on Automorphic Forms, Geometry and Representation Theory. Zhejiang University, Hangzhou, China.
May 2018	Lie Theory Seminar. University of Minnesota, Minneapolis.
January 2018	Harvard Number Theory Seminar. Harvard University, Boston.
October 2017	The 2017 Paul J. Sally, Jr. Midwest Representation Theory Conference, in honor of Freydoon Shahidi on the occasion of his 70th birthday. Purdue University.
October 2017	University of Chicago Number Theory Seminar.
October 2017	Northwestern Number Theory Seminar. Northwestern University, Evanston.
August 2017	Shanghai Center for Mathematical Science, Fudan University, Shanghai.
May 2017	Harmonic Analysis and the Trace Formula. MFO, Oberwolfach, Germany.
March 2017	MIT Lie Groups Seminar. Massachusetts Institute of Technology, Boston.
February 2017	Number Theory Seminar at Ohio State University. Columbus.
February 2017	Duke Number Theory Seminar. Duke University, Durham.
November 2016	Rutgers-Newark Junior Number Theory Days, 2016. Rutgers University-Newark
November 2016	Automorphic Forms and Arithmetic Seminar. Columbia University, New York.
October 2016	Special Session on Representation Theory, Automorphic Forms and Related Topics. AMS Section Meeting, University of St. Thomas, Minneapolis.
May 2016	Relative Trace Formula, Periods, L-functions and Harmonic Analysis. CIRM, Luminy, France.
March 2016	30th Automorphic Forms Workshop. Wake Forest University, Winston-Salem.
December 2015	Workshops on Automorphic Kernel Functions. American Institution of Mathematics, San Jose.