Lei Zhang

Dept. of Math. 
National University of Singapore 
Block S17, 10 Lower Kent Ridge Road 
Singapore, 119076 
Phone(O): (+65) 6516 2747 
Fax: (+65) 6779 5452 
Email: matzhlei@nus.edu.sg 
http://blog.nus.edu.sg/matzhlei/

| EDUCATION | 
| --- | --- |
| Ph.D. in Math., The University of Minnesota | 2011 |
| B.S. in Math., Peking University | 2005 |

| ACADEMIC APPOINTMENTS | 
| --- | --- |
| • Assistant Professor, National University of Singapore | 2014–present |
| • Visiting Assistant Professor, Boston College | 2011–2014 |

| RESEARCH INTERESTS | 
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| Automorphic Forms, Number Theory and Representation Theory. |

| PUBLICATIONS AND PREPRINTS | 
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| 1. *Simple Fourier Trace Formulas of Cubic Level and Applications*, joint with Qinghua Pi and Yingnan Wang, arXiv:1906.06103, preprint, 2019. |
| 2. *Bessel Descents and Branching problems*, joint with Dihua Jiang, arXiv:1905.02307, preprint, 2019. |
| 3. *The Exterior Cube L-function for GU_6 and Unitary Automorphic induction*, arXiv:1903.04322, preprint, 2019. |
| 4. *Converse Theorem of Gauss Sums*, with an appendix by Zhiwei Yun, arXiv:1806.04850, preprint, 2018, joint with Chufeng Nien. |
| 5. *The multiplicity problems for the unitary Ginzburg-Rallis models*, arXiv:1808.02203, preprint, 2018, joint with Wan Chen. |
| 6. *Arthur parameters and cuspidal automorphic modules of classical groups*, arXiv:1508.03205, preprint, 2015, joint with Dihua Jiang. |
| 7. *On the Non-vanishing of the Central Value of Certain L-functions: Unitary Groups*, appear in JEMS, 2019, joint with Dihua Jiang. |
| 8. *Local root numbers and spectrum of the local descents for orthogonal groups: p-adic case*. Algebra Number Theory 12 (2018), no. 6, 1489−1535 joint with Dihua Jiang. |
| 9. *Whittaker-Shintani Functions for General Linear Groups*, Sci. China Math. 61 (2018), no. 1, 95−110. |
| 10. *Automorphic Integral Transforms for Classical Groups II: Twisted Descents*, Automorphic integral transforms for classical groups II: Twisted descents. Representation theory, number theory, and invariant theory, 303−335, Progr. Math., 323, Birkhäuser/Springer, Cham, 2017, joint with Dihua Jiang. |
| 11. *The Jacquet Langlands correspondence via twisted descent*, Int Math Res Notices, 2016 (18): 5455−5492, joint with Dihua Jiang, Baiying Liu, and Bin Xu. |
12. *Tokuyama-type formulas for type B.* Israel J. Math. 216 (2016), no. 2, 617–655, joint with Solomon Friedberg.

13. *Distinguished Tame Supercuspidal Representations of Symmetric Pairs* $(\text{Sp}_{4n}(F), \text{Sp}_{2n}(E))$, With an appendix by Dihua Jiang and Lei Zhang, Manuscripta Math. 148 (2015), no. 1–2, 213–233.

14. *Eisenstein Series on Covers of Odd Orthogonal Groups.* Amer. J. Math. 137 (2015), no. 4, 953–1011, joint with Solomon Friedberg.

15. *A Product of Tensor Product $L$-functions of Quasi-splits Classical Groups of Hermitian Type.* Geom. Funct. Anal. 24 (2014), no. 2, 552–609, joint with Dihua Jiang.

16. $(\text{Sp}_{2n}(\mathbb{F}_{q^2})$)-invariants in irreducible unipotent representations of $\text{Sp}_{4n}(\mathbb{F}_q)$. J. Algebra 395 (2013), 24–46.

17. *Poles of certain residual Eisenstein series of classical groups.* Pacific J. Math. 264 (2013), no. 1, 83–123, joint with Dihua Jiang and Baiying Liu.

18. *Gelfand pairs $(\text{Sp}_{4n}(F), \text{Sp}_{2n}(E))$.* J. Number Theory 130 (2010), no. 11, 2428–2441.

**Organizing Conferences**

- Representation Theory Workshop 2019, Aug. 21 2019 – Aug. 22 2019.
- On the Langlands Program: Endoscopy and Beyond, Institute for Mathematics Science, Singapore, Dec. 17 2018 – Jan. 18 2019.
- New Developments in Representation Theory, Institute for Mathematics Science, Singapore, Mar. 2016.
- Workshop on automorphic kernel functions, The American Institute of Mathematics, Nov. 30 – Dec. 4, 2015.

**Selected Talks and Invited Events**

- HKUST-KAIST-NUS Joint Workshop in Mathematics: Algebra, Algebraic Geometry and Lie Theory, Nov. 7 – Nov. 9, 2019.
- International Conference on Representation Theory VIII, harbin Engineering University, July 8 – July 12, 2019.
- Representation Theory and Automorphic Form Forum, Zhejiang University, June 27 – June 28, 2019.
- Automorphic Forms and Geometric Representation Theory, Institute for Advanced Study in Mathematics, Harbin Institute of Technology, May 28 – June 6, 2019.
- BRL-PMI Intensive lecture series, The Langlands Conjectures and $L$-functions, Pohang Mathematics Institute, Postech, Pohang, Korea, Feb. 11 – Feb. 14 2019.
- A series of Lectures, On the Langlands Program: Endoscopy and Beyond, Institute for Mathematics Science, Singapore, Dec 17 2018 – Jan 18 2019.
- Workshop on Automorphic Forms, Representations of Lie Groups and Several Complex Variables, Academy of Mathematics and Systems Science (AMSS), Chinese Academy of Sciences, Beijing, July 9–14, 2018.
- Automorphic forms on reductive groups and their covers: A conference in honour of Solomon Friedberg Forschungsinstitut fuer Mathematik, (ETH), Zürich, Switzerland, June 25–28, 2018.
• Automorphic Forms, Geometry and Representation Theory, Zhejiang University, June 4–June 8, 2018.
• Functoriality and the trace formula, The American Institute of Mathematics, Dec. 4 – Dec. 8, 2017.
• Number Theory Seminar, Chinese Academy of Sciences, Beijing, Aug. 10, 2017.
• Automorphic Representations and L-functions, Shandong University at Weihai, Aug. 6–7, 2017.
• Workshop on Automorphic Forms and Automorphic Representations, Shanghai Center for Mathematical Sciences, Fudan University, July 3 –8, 2017.
• Workshop on Lie Group Representations and Automorphic Forms, Beijing International Center for Mathematical Research, July 3 –8, 2017.
• New Developments in Representation Theory, Institute for Mathematics Science, Singapore, Mar. 2016.
• Workshop on automorphic kernel functions, The American Institute of Mathematics, Nov. 30 – Dec. 4, 2015.
• Automorphic Forms, Geometry and Representation Theory in Hangzhou, Zhejiang University, July 26–31, 2015.
• Pan Asia Number Theory Conference 2015 in Sanya, July 21–24, 2015.
• Workshop on Automorphic Forms and Representations in Beijing, July 1–11, 2014.
• Workshop on The Future of Trace Formulas, Banff International Research Station, Canada, Jun. 1–6, 2014.
• AMS Sectional Meeting, The University of Maryland, Jan. 15–16, 2014.
• MIT Number Theory Seminar, Dec. 3, 2013.
• Number Theory Seminar, Boston University, Nov. 18, 2013.
• Automorphic Forms and Arithmetic Seminar, Columbia University, Nov. 15, 2013.
• MIT Lie Groups Seminar, Part (II), MIT, Nov. 13, 2013.
• MIT Lie Groups Seminar, Part (I), MIT, Nov. 6, 2013.
• Advances in the theory of automorphic forms and their L-functions The Schrödinger International Institute for Math Physics (Vienna), Austria, Oct. 16–26, 2013.
• Workshop on Whittaker Functions: Number Theory, Geometry and Physics, Banff International Research Station, Canada, Oct. 13–18, 2013.
• Maine-Québec Number Theory Conference, The University of Maine, Oct. 5–6, 2013.
• Summer Workshop on Arithmetic Geometry, Tsinghua University, Jul. 22–25, 2013.
• The Sixth International Congress of Chinese Mathematicians at Taiwan, Jul. 14–19, 2013.
• Mini-Workshop on Langlands Functoriality, The University of Minnesota, May 6–10, 2013.
• ICERM Semester Program on Automorphic Forms, Combinatorial Representation Theory and Multiple Dirichlet Series, ICERM, Apr. 2013.
• Number Theory Seminar, University of Wisconsin at Madison, Nov. 2012.
• Number Theory Seminar, Peking University, China, Jul. 2012.
• Working Seminar at Morningside Center of Mathematics, Chinese Academy
of Science, Beijing, Jul. 2013.
• Lie Theory Seminar, The University of Minnesota, Jun. 2012.
• Number Theory and Algebraic Geometry Seminar, Boston College, Feb. 2012.
• AMS Eastern Sectional Meeting, Cornell University, Sept. 2011.
• Midwest Number Theory Conference for Graduate Students and Recent PhD’s 2010, University of Michigan, Nov. 2010.
• Conference on Automorphic Forms and Representation Theory, University of Oklahoma, Oct. 2010.
• Working Seminar on Representations of $p$-adic Groups, The University of Minnesota, 2009–2010.
• Midwest Conference on Automorphic Forms, Representation Theory, and Number Theory, University of Iowa, Oct. 2009.