ZHIQI ZHU, 朱祉琪

Università di Padova
Dipartimento di Matematica "Tullio Levi-Civita"
Via Trieste, 63 - 35121 Padova
People's Republic of China

Email: zhiqi.zhu@studenti.unipd.it
or: zhuzhiqi0730@gmail.com
Phone: +86 184 5837 7371 (CHN) or +39 324 287 3302 (IT)
blog & homepage: https://pmenom.github.io/EnHome.html

Current (Research) Interests (Advisor when undergraduated: Dr. Prof. Shanwen Wang)

- **Representation Theory** and **Number Theory**, in particular **Automorphic Forms.**
- Algebraic Geometry, including Complex Geometry and Arithmetic Geometry,
- Harmonic Analysis.

Education

- **ALGANT** Master 2024.9 – Present

  Università di Padova (M1) and Universität Duisburg-Essen (M2)
- Visiting Research Student, BIMCR, 2023.8 – 2024.6
- Undergraduate, Mathematics, 2020.9 – 2024.6

  The Experimental Class for Top Talents Program, Renmin Univ. of China
- Enhanced program for Graduate Study (visiting research student), BIMCR,

  2023.2 - 2023.7

Teaching Assistant

- Modular Forms (Graduate course), 2023.9 – 2024.12
- Mathematical Analysis III (2rd year course), 2023.9 – 2024.12
- Calculus (1st year course), 2023.9 – 2024.12
- Real Analysis (2nd year course). 2023.2 - 2023.6

Bachelor Thesis/Study Note

[Local Gan-Gross-Prasad Conjecture: Tempered Hermitian Case], 2023.4 - 2024.4

In this paper, we study, following work of Beuzart-Plessis in [BP20], a geometric expansion for certain multiplicities m(\pi) appearing in the local Gan-Gross-Prasad Conjecture, and Beuzart-Plessis's proof on a weak form of this conjecture (on the multiplicity one property in tempered L-packets). In Beuzart-Plessis's proof, the crucial step is to study a sort of local relative trace formula which is related to the Gan-Gross-Prasad Conjecture for unitary groups over a local field F of characteristic zero. It is also the English version of my bachelor thesis.

Undergraduate Research Opportunities

- Modular Forms, Geometric Modular Forms and Automorphic Forms,

2022.4 - 2023.4

Bichang Lei, Mucheng Dong, Yu Yao, **Zhiqi Zhu**.

Attended Mini Courses/Seminars

- Arizona Preliminary Winter School, Arizona (Online), 2023.9 – 2023.12
- Core topics in modern number theory, YMSC, 2022.12 - 2023.6
- 2022 Summer School on Differential Geometry, BIMCR, 2022.8
- Algebraic number theory, summer school, Nanjing University. 2022.7

Talks/Seminars Organized

- Rep'n Theory on the Archimedean Place with Emphasis on GL(2), 2023.8 – 2024.4
- Algebraic Geometry and Elliptic Curves, 2022.9 – 2023.10
- Category Theory and Homological Algebra, 2023 Spring
- Lie groups and the representation theory, 2022 Spring
- Differential manifolds, differential topology, 2021 Winter

Languages

- Chinese Native
- English Working Proficiency
- Latex Working Proficiency
- French Learning

  J'ai essayé de lire quelques articles en français.

Extra Graduate Courses have taken (when undergraduate)

- Automorphic Representation, 2023 Summer
- Homology Theory (BICMR course), 2023 Spring
- Representation Theory (BICMR course), 2023 Spring
- Modular Forms and Number Theory (PKU course), 2023 Spring
- Number Theory: Perfectoid Spaces (PKU course), 2023 Spring
- Homology Theory and Characteristic Classes (Audited in PKU), 2023 Spring
- Commutative Algebra, Homological Algebra, 2023 Spring
- Riemannian Geometry, 2022 Summer, 2023 Spring
- Complex Geometry, 2022 Summer

- Representation Theory of Groups, 2022 Spring
- Riemann Surfaces, (Audited) 2022 Spring
- Harmonic Analysis and Singular Operator Theory 2022 Spring

Interests and Specialists

- Piano and classical music,
- Swimming (university team), badminton (school of mathematics team), football (school of mathematics team, coach).