

Zhiyuan Deng

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EDUCATION

Harbin Institute of Technology (HIT)	09/2017- 06/2021
Bachelor of Science in Mathematics and Applied Mathematics.	
Aix-Marseille University	09/2021-06/2022
Master of Fundamental Mathematics; Representation Theory and Langlands program	
Full Scholarship Supported by the Archimedes Institute	
Cardiff University	(Not enrolled because of Pandemic)
Doctor of Philosophy in Quantum Field Theory	
Full Scholarship Supported by China Scholarship Council	
Zurich Graduate School of Mathematics	02/2023-(ongoing)
Doctor of Philosophy in Homogeneous dynamics and trace formula	
With Supervisor Prof. Dr. Alexander Gorodnik	

SUMMER SCHOOL

University of Zurich: Distribution of Orbits: Arithmetics and Dynamics	05/27/2024-05/31/2024
Online Program Website: https://sites.google.com/view/distribution-of-orbits-2024/home	
Jagiellonian University: Dynamics and number theory	05/27/2024-05/31/2024
Online Program Website: https://dante.c.matinf.uj.edu.pl/home	
Beijing University: Satellite Conference in Number Theory	07/10/2024-07/14/2024
Online Program Website: https://satelliteconference2023.casconf.cn	
University of Zurich: Zurich Dynamics Conference and School	06/08/2023-06/16/2023
Online Program Website: https://www.math.uzh.ch/zdc23/index.php?id=130	
IMPAN Warsaw: Ergodic theory and parabolic dynamics	05/22/2023-06/02/2023
Online Program Website: https://www.impan.pl/en/activities/banach-center/conferences/23-ergodicthapady/program	
University of Copenhagen: Relative Trace Formulae Master class	08/22/2022-08/26/2022
Online Program Website: https://www.math.ku.dk/english/calendar/events/relative-trace-formulae/	
SuZhou University: Summer School about Theta Correspondence	07/03/2021-07/16/2021
Arizona Winter Semester 2021: Virtual School in Number Theory	01/25/2021-05/01/2021
Online Program Website: https://www.math.arizona.edu/~swc/	
With additional support from CIMP	
AGITTOC Foundations of Algebraic Geometry, Stanford University Ravi Vakil	06/30/2020-09/17/2020
Course Format: Seminar	
AASU-Algebra and Arithmetic Summer School, University of Antwerp	07/06/2020-07/11/2020
Online Program Website: https://vice.uantwerpen.be/webapps/blackboard/execute/launcher?type=Course&id=_57235_1&url=	
Smooth Representations of Reductive P-adic Groups Over Arbitrary Fields Short Course, Peking University	01/14/2020-01/17/2020
Algebraic Geometry, Algebraic Number Theory, Representation Theory Summer School, University of Chinese Academy of Sciences	07/27/2019-08/26/2019
The Road to Mathematics: Algebra and Number Theory Summer School, HIT	07/08/2019-07/28/2019

Total Score: A-

RESEARCH & PROJECT

The Equivalence of Godement-Jacquet and Langlands-Jacquet L-functions	Paris
Supervisor: Prof. Farrell Brumely	04/2022-07/2022
➤ Recollect the classical theory of L-functions by Riemann, Hecke and Tate	
➤ Understand Construction of the equivalence between those two types of L-functions by theta correspondence	
➤ Studied Spherical varieties to construct a unitary equivalence of L-functions	
Local Langlands Programme	Weihai
Supervisor: Prof. Pi Qinghua	09/2019-11/2020
➤ Studied the Langlands theory, delivered Local Langlands Conjecture on $GL(2)$ in the seminar	
➤ Learned the course of Module Form and Analytic Number Theory in Shandong University, discussed the first four chapters of Langlands Programme by Bushnell and Henniart and Bump with graduate students	

The Classification of Polygon with Genus 2 and 3

Harbin

Supervisor: Prof. Wouter Castryck

07/03/2019-07/26/2019

- Completed the course of *Arithmetic Geometry* with excellent grade A- and ranked No.6 in the total of 65 classmates
- Finished the thesis, tried to improve the existing classification methods to make the estimation more accurate when $\text{Genus}=N$
- Further solidified the foundation of *Algebra and Number Theory*, understood the current research methodologies of number theory through participating in the international conference

Hopf Bifurcation Analysis in a Diffusive SIP Model with Time Delay

Weihai

Supervisor: Prof. Niu Ben

09/2017-06/2021

- Analyzed the stability of the SIP/SIR model, explained the corresponding biological phenomena
- Understood the geometric theory of differential equations, delivered the course of *Ordinary Differential Equations and Geometric Theory* in the seminar of the research group
- Mastered the MATLAB to conduct the numerical simulation, completed the mathematical paper and thesis through Latex
- Participate in analysis the spread of epidemic diseases: Coronavirus-19

TA/RA EXPERIENCE

Local Langlands Correspondence on GL(2)

09/2019-02/2020

Ordinary Differential Equations and Geometric Theory

04/2018-07/2019

INTERNSHIP (La Stage)

Paris(ENS)-Bonn workgroup

Paris(ENS)

Research internship with Prof. Farrell Brumley

10/07/2021-06/30/2022

- Study the notes of Stanford Course note by Akshay Venkatesh on Geometric Quantization
- The details for papers of Nelson and Venkatesh
- Understood Microlocal methods in automorphic forms
- Working on Master thesis about equivalence between Godement-Jacquet and Jacquet-Langlands by Gal Dor's method