

# FARAHNAZ AMIRI

## *Curriculum Vitae*

🏠 Room 210 A3-4,  
Beijing Institute of  
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Sciences and Application  
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## POSITIONS

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Postdoc, "BIMSA supported by Tsinghua University" BEIJING INSTITUTE OF MATHEMATICAL SCIENCES AND APPLICATION, BEIJING, CHINA	JUL 2023-PRESENT
Faculty member, "Undergraduate Math instructor" FARADARS (IRAN'S LARGEST ONLINE UNIVERSITY), TEHRAN, IRAN	FEB 2022-FEB 2023
Visiting Student, "Fermat's Last Theorem" Program INSTITUTE FOR RESEARCH IN FUNDAMENTAL SCIENCES (IPM), TEHRAN, IRAN	DEC 2018-FEB 2019
Research Collaborator INSTITUTE FOR RESEARCH IN FUNDAMENTAL SCIENCES (IPM), TEHRAN, IRAN	JUN 2015-NOV 2016
Visiting Student, "Langlands" Program INSTITUTE FOR RESEARCH IN FUNDAMENTAL SCIENCES (IPM), TEHRAN, IRAN	SEP 2015-JUN 2016

## EDUCATION

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Ph.D. in Pure Mathematics, Advisor: Ali Rajaei  
SEP 2016-JUN 2023    TARBIAT MODARES UNIVERSITY (Iran)

M.Sc. in Pure Mathematics  
SEP 2013-JUN 2015    SHARIF UNIVERSITY OF TECHNOLOGY (Iran)

B.Sc. in Pure Mathematics  
SEP 2009-JUN 2013    UNIVERSITY OF MASHHAD (Iran)

## RESEARCH INTEREST

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- Arithmetic Geometry.
- Algebraic and Analytic Number Theory.

## PUBLICATIONS

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### PAPERS

1. **CLASSIFICATION OF ALL NORMAL IMAGINARY FIELDS OF DEGREE 32 WITH CLASS NUMBER ONE. SUBMITTED.**

ABSTRACT: In this article, our goal is to extend listings fields with class number one from CM number fields of degree 32 to all imaginary number fields of degree 32. The method described in this paper was initially conjectured by the author based on some computational results. Subsequently, the author successfully proved it and applied it to all number fields of degrees 32.

2. **THE AVERAGE OF CLASS NUMBER OF SOME FAMILIES OF QUADRATIC FIELDS. IN PREPERATION**

### THESIS

1. Ph.D. thesis on "**A NEW METHOD TO DETERMINE TOTALLY IMAGINARY GALOIS FIELDS WITH CLASS NUMBER ONE OF A GIVEN DEGREE.**" (in Persian),  
*Advisor: Ali Rajaei, Dec 2022.*
2. Master thesis on "**AVERAGE RANK OF ELLIPTIC CURVES**" (in Persian),

## RESEERCH EXPRIENCE

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1. Research Collaboratoratoin on "**UNIFORM DISTRIBUTION OF POINTS ON SPHERE**"  
*Advisor: Ali Kamalinejad. JUN 2015-OCT 2015, MAR 2016-NOV 2016*
2. Consequences of results on "**THE DISTRIBUTION OF PRIME NUMBERS**" *MAR 2010-JUN 2010*

## AWARDS & GRANTS

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- Foreign Scholar Program of Beijing NSF, 200,000 RMB (27600 \$), 2024.
- BJNSF International Scientists Project grant, 100,000 RMB (13800 \$), 2024.
- Langlands Program Scholarship, IPM, SEP 2015- SEP 2016.
- Outstanding Student: Admission without entrance exam to the M.Sc. program, Awarded to top 3 students, Ferdowsi Mashhad University (Iran), 2013.
- Ninth Rank in the National Mathematical Olympiad among all undergraduate Mathematics students (Iran), 2013.
- Highschool Project on the irrationality of decimal expansion of quadratic numbers, 2006.

## INVITED & CONFERENCE TALKS

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- Tsinghua-BIMSA Number theory Lunch Seminar MAY 2024.  
THE AVERAGE OF CLASS NUMBER OF QUADRATIC FIELDS
- Weekly Seminar at Tarbiat Modares University JANUARY 2024.  
BIQUADRATIC FORMS AND CLASS NUMBER PROBLEMS

Tsinghua-BIMSA Number theory Lunch Seminar IMAGINARY FIELDS WITH CLASS NUMBER ONE	OCTOBER 2023.
Postdoc Workshops at YMSC in Tsinghua University NEW FAMILIES OF IMAGINARY FIELDS WITH CLASS NUMBER ONE	OCTOBER 2023.
Sharif Women in math, Sharif University of Technology, CLASS NUMBER ONE, FROM GAUSS TILL NOW.	JANUARY 2021.
Fourth International Conference on Mathematics and Basic Science, NON UNIQUE FACTORIZATION OF DIHEDRAL EXTENSIONS OF DEGREE 32.	AUGUST 2021.

## TEACHING EXPERIENCE

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### INSTRUCTOR

IRAN MODARES (Online teaching in Iran)

SPRING 2023		Calculus (to students from Germany and Sweden)
SPRING 2023		Combinatorics (to students from Spain)

FARADARS (Iran's largest online university)

FALL 2022		Algebra
SUMMER 2022		Combinatorics

TARBIAT MODARES UNIVERSITY

SPRING 2022		Graduate Algebraic Number Theory
FALL 2020		Graduate Algebraic Topology
SPRING 2020		Graduate Representation Theory
FALL 2019		Graduate Algebra

SHARIF UNIVERSITY OF TECHNOLOGY

SPRING 2021		Topics In Algebraic Number Theory
FALL 2018		Graduate Algebraic Number theory

## SERVICES AND OTHER ACTIVITIES

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SEP 2017-JUN 2019	Member of Young Scholars Club, Teaching Highschool students at remote areas in Iran to prepare for IMO.
JUN 2016-DEC 2017	Working with a student on her M.Sc. thesis, <i>Monogenic Number Fields.</i>

## LANGUAGES

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PERSIAN:	Mother tongue
ENGLISH:	Advanced
ARABIC:	Familiar
CHINESE:	Beginner

## COMPUTER SKILLS

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Sage\Pari	Gap (System for Computational Discrete Algebra)
Python	Mathematica
Latex	Microsoft Office

## REFERENCES

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Artan Sheshmani, Full professor of BIMSA, artan@bimsa.cn  
Ramin Takloo-Bighash, Full Professor of University of Illinois at Chicago, rtakloo@math.uic.edu  
Mahdi Asgari, Visiting Associate Professor at Cornell University, asgari@math.okstate.edu  
Ali Rajaei, Assistant Professor of Tarbiat Modares University, alirajaei@modares.ac.ir  
Amir Jafari, Assistant Professor of Sharif University of technology, ajafari@sharif.ir  
Yong-Xiong Li, Assistant Professor of Tsinghua University, liyx\_1029@tsinghua.edu.cn  
Ali Kamalinejad, Assistant Professor of Tehran University, kamalinejad.a@ut.ac.ir