

Jaitra Chattopadhyay

CONTACT INFORMATION Department of Mathematics, E-mail: chat.jaitra@gmail.com
Visva-Bharati, Santiniketan, Mob: (91) 95197 89169
Birbhum - 731 235,
West Bengal, India.

RESEARCH INTERESTS Ideal Class Groups of Number Fields, Divisibility and Indivisibility of Class Numbers, Euclidean Ideal Class, Integer-valued Polynomials, Pólya groups.

EMPLOYMENT **Visva-Bharati, Santiniketan**

- Assistant Professor of Mathematics, 2023 (May) -

EDUCATION **Indian Institute of Technology, Guwahati**

- NBHM Post-Doctoral Fellow in Mathematics, 2021 (November) - 2023 (April)
- Institute Post-Doctoral Fellow in Mathematics, 2020 - 2021 (November).
- Mentor: Prof. Anupam Saikia

Harish-Chandra Research Institute

Ph.D. in Mathematics, 2015-2020.

- Dissertation Topic: Some Problems in Ideal Class Groups and Related Topics
- Advisor: Prof. R. Thangadurai

Ramakrishna Mission Vidyamandira

- MSc. in Mathematics, 2013-2015.

Chennai Mathematical Institute

- BSc. (Honours) in Mathematics and Computer Science, 2010-2013.

PUBLICATIONS

1. *On the p -rationality of consecutive quadratic fields*, (with H Laxmi and A. Saikia), *J. Number Theory*, **248** (2023), 14-26.
2. *On the p -ranks of the ideal class groups of imaginary quadratic fields*, (with A. Saikia), *Ramanujan J.*, Accepted for publication.
3. *On denseness of certain direction and generalized direction sets*, (with D. Antony and R. Barman), *Integers*, **22** (2022), Paper No. A88, 9 pp.
4. *On a generalization of Menon-Sury identity to number fields involving a Dirichlet Character*, (with S. Sarkar), *Ramanujan J.*, **59** (2022), 979-992.
5. *Totally real bi-quadratic fields with large Pólya groups*, (with A. Saikia), *Res. Number Theory*, **8** (2022), Paper No. 30.
6. *Simultaneous indivisibility of class numbers of pairs of real quadratic fields*, (with A. Saikia), *Ramanujan J.*, **58** (2022), 905-911.
7. *On a question of f - ex units in $\mathbb{Z}/n\mathbb{Z}$* , (with Anand and B. Roy), *Arch. Math. (Basel)*, **116** (2021), 403-409.
8. *On the simultaneous 3-divisibility of class numbers of triples of imaginary quadratic fields*, (with M. Subramani), *Acta Arithmetica*, **197** (2021), 105-110.

9. *On sums of polynomial-type exceptional units in $\mathbb{Z}/n\mathbb{Z}$* , (with Anand and B. Roy), Arch. Math. (Basel), **114** (2020), 271-283.
10. *Distribution of residues modulo p using the Dirichlet's class number formula*, (with B. Roy, S. Sarkar and R. Thangadurai), Class Groups of Number Fields and Related Topics, Springer Nature (2020), 97-107.
11. *A short note on the divisibility of class numbers of real quadratic fields*, J. Ramanujan Math. Soc., **34** (2019), 389-392.
12. *Mean values and moments of arithmetic functions over number fields*, (with P. Darbar), Res. Number Theory, **5** (2019), Art. 23, 15 pp.
13. *Biquadratic fields having a non-principal Euclidean ideal class*, (with M. Subramani), J. Number Theory, **204** (2019), 99-112.
14. *Quadratic nonresidues and nonprimitive roots satisfying a coprimality condition*, (with B. Roy, S. Sarkar and R. Thangadurai), Bull. Aust. Math. Soc., **99** (2019), 177-183.
15. *On fractionally dense sets*, (with B. Roy and S. Sarkar), Rocky Mountain J. Math., **49** (2019), 743-760.
16. *Set equidistribution of subsets of $(\mathbb{Z}/n\mathbb{Z})^*$* , (with V. Kumar and R. Thangadurai) Hardy-Ramanujan Journal, **41** (2018), 104-112.
17. *A problem related to prime powers*, Math. Student, **87** (2018), 135-136.

**PREPRINTS
AND
SUBMITTED**

18. *A brief survey of recent results on Pólya groups*, (with A. Saikia), Communicated.
19. *On the structure and stability of ranks of 2-class groups in cyclotomic \mathbb{Z}_2 -extensions of certain real quadratic fields*, (with H Laxmi and A. Saikia), Communicated.
20. *Non-Pólya bi-quadratic fields with an Euclidean ideal class*, (with A. Saikia), Communicated.

**CONFERENCE
AND INVITED
TALKS**

1. *p -rationality of consecutive quadratic fields and Iizuka's conjecture*, Club of Mathematics, IISER TVM, Online, (March, 2023)
2. *p -rationality of quadratic fields in the light of Iizuka's conjecture*, International E-Conference of Young Researchers in Algebra and Number Theory-2023, Fez, Morocco, Online, (January, 2023).
3. *On the p -ranks of the ideal class groups of imaginary quadratic fields*, International Conference on Class Groups of Number Fields and Related Topics, Kerala School of Mathematics, (November, 2022).
4. *Quartic fields with large Pólya groups*, HRI, Prayagraj, (September, 2022).
5. *Totally Real Bi-quadratic Fields With Large Pólya Groups*, International Conference on Class Groups of Number Fields and Related Topics, Kerala School of Mathematics, (October, 2021).
6. *On some families of non-Pólya bi-quadratic fields*, The Maine-Québec Number Theory Conference, Online, (October, 2021).
7. *On non-Pólya bi-quadratic fields with a Euclidean ideal class*, Young Researchers in Algebraic Number Theory-III, Online, (August, 2021).
8. *A journey with prime numbers*, RCMLS-2021, Assam, Online, (July, 2021).
9. *Simultaneous divisibility and indivisibility properties of class numbers of quadratic fields*, Online, Weekly Research Seminar for Early Career Mathematicians from India, Invited speaker, Online, (May, 2021).

10. *Simultaneous 3-divisibility of class numbers of imaginary quadratic fields*, Virtual Math Fest, Online, (July, 2020).
11. *Biquadratic fields having a non-principal Euclidean ideal class*, 5th mini symposium of the Roman Number Theory Association, Università Roma Tre, Rome, Italy, (April, 2019).
12. *On the divisibility of class numbers of quadratic fields*, International conference on Number Theory, IISER Trivandrum, (March, 2019).
13. *Biquadratic fields having a non-principal Euclidean ideal class*, Workshop on Topological Dynamics, Number Theory and related areas, RKMVERI Belur, (January, 2019).
14. *Biquadratic fields having a non-principal Euclidean ideal class*, International conference on class groups of number fields and related topics, Harish-Chandra Research Institute, (October, 2018).
15. *Set equidistribution of subsets of $(\mathbb{Z}/n\mathbb{Z})^*$* , International conference on class groups of number fields and related topics, Harish-Chandra Research Institute, (September, 2017).

**TEACHING
EXPERIENCE**

Nov-Feb	22/23	Tutor, MA-101 (Calculus-1), IITG.
June-July	2022	Tutor, Advanced Foundational School - III, IIT Guwahati.
Mar-June	2022	Tutor, MA-102 (Linear Algebra & ODE), IITG.
Aug-Nov	2021	Tutor, MA-222 (Elementary Number Theory & Algebra), IITG.
Nov-Feb	20/21	Tutor, MA-101 (Calculus-1), IITG.
May	2020	Tutor, Advanced Foundational School - I, (Online).
May	2019	Tutor, Advanced Foundational School - I, HRI.
March	2019	Instructor, Workshop in Group Cohomology, HRI.
June-July	2018	Tutor, Summer Program In Mathematics (SPIM), HRI.

**HONORS AND
AWARDS**

2020	NBHM Post-Doctoral Fellowship
2020	IPDF Fellowship (IIT Guwahati)
2018	Harish-Chandra Memorial Award
2015	UGC-NET (AIR - 003), GATE (AIR - 60)
2014	UGC-NET (AIR - 077)
2015–2020	NBHM PhD Fellowship (Did not avail)
2010–2015	INSPIRE Scholarship

**WORKSHOP
AND
CONFERENCE
ATTENDED**

Apr.	2023	Workshop on Elliptic Curves, IISER Thiruvananthapuram.
Jan.	2023	International E-Conference of Young Researchers in Algebra and Number Theory-2023, Fez, Morocco, (Online).
Dec.	2022	Workshop on Jacobi Forms, IIT Guwahati.
Nov.	2022	International Conference on Class Groups of Number Fields and Related Topics, Kerala School of Mathematics.
Oct.	2021	International Conference on Class Groups of Number Fields and Related Topics, Kerala School of Mathematics, Online.
Oct.	2021	The Maine-Québec Number Theory Conference, Online.
Aug.	2021	Young Researchers in Algebraic Number Theory-III, Online.
Aug.	2021	Elliptic curves and the special values of L -functions, Online.
Jan.-	2021	AIC on Commutative Algebra, Online.
Apr.		
Dec.	2020	Workshop on Modular Forms, Online.
July	2020	Virtual Math Fest, Online.
Feb.	2020	Workshop on Additive Combinatorics, ICTS, Bangalore, India.
Dec.	2019	Workshop on Transcendence on Commutative Algebraic Groups, NISER, Bhubaneswar, India.

Mar.	2019	International conference on Number Theory, IISER, Trivandrum, India
Jan.	2019	Workshop and conference on Number Theory, RKMVERI, Belur, India
Dec.	2018	AIS on Lie Algebra, Harish-Chandra Research Institute, Allahabad, India
Nov.	2018	Workshop and Conference on Number Theory, NISER, Bhubaneswar, India
Oct.	2018	International Conference on Class Groups of Number Fields and Related Topics, Harish-Chandra Research Institute, Prayagraj (Allahabad), India.
Dec.	2017	Analytic Number Theory, Indian Statistical Institute, Kolkata, India
Dec.	2017	Transcendental Numbers and Special Values of Dirichlet Series, IIT Ropar, India
Sept.	2017	International Conference on Class Groups of Number Fields and Related Topics, Harish-Chandra Research Institute, Prayagraj (Allahabad), India.
May	2017	AIS on Class Field Theory, Chennai Mathematical Institute, India
Feb.	2017	Combinatorics and Number Theory Meet at HRI, Harish-Chandra Research Institute, Prayagraj (Allahabad), India
June	2016	AIS on Analytic Theory of Algebraic Numbers, Kalinga Institute of Industrial Technology, Bhubaneswar, India
Mar.	2016	Triveni Number Theory Meet @ HRI, Harish-Chandra Research Institute, Prayagraj (Allahabad), India
June	2014	Summer Programme In Mathematics, Harish-Chandra Research Institute, Prayagraj (Allahabad), India

ACADEMIC VISITS

September	2022	HRI, Prayagraj
October	2019	TU Graz, Austria
October	2019	IST, Austria

ARTICLES REFEREED

- Indian J. Pure Appl. Math. - 1 paper refereed
- Commentationes Mathematicae Universitatis Carolinae - 1 paper refereed
- ICCGNFRT Proceedings - 1 paper refereed
- AMS's *Mathematical Reviews* - 19 articles reviewed

GRADUATE COURSEWORK

<input type="checkbox"/> Algebra	<input type="checkbox"/> Differentiable Manifolds
<input type="checkbox"/> Analysis	<input type="checkbox"/> Additive combinatorics
<input type="checkbox"/> Topology	

RELEVANT SKILLS

Languages:	English (fluent), Hindi (fluent), Bengali (native)
Hobbies:	Playing chess, solving Rubik's cube