

Curriculum Vitae

PERSONAL INFORMATION

Shalini Bhattacharya
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EDUCATION

- Oct. '17–Sept.'18 **Post-doctoral fellow**,
Max Planck Institute for Mathematics, Bonn, Germany.
- Jan '16–Sept.'17 **Post-doctoral fellow, Mathematics**
Bar Ilan University, Ramat Gan, Israel.
- Aug.'10–Dec.'15 **Research scholar, Mathematics** (PhD. degree awarded in 2016).
Tata Institute of Fundamental Research, Mumbai.
- 2008–2010 **M.Math fellow**
Indian Statistical Institute, Kolkata.
Degree awarded in 2011 (M. Math., First division)
- 2005–2008 **B.Sc. student, Mathematics**
Presidency College, Kolkata.
Degree awarded in July, 2008 (B.Sc. with First class Honours in Mathematics).

EMPLOYMENT

- April '24– Assistant professor,
School of Mathematics and Statistics, University of Hyderabad.
- Nov.'18 - March '24 Assistant professor,
Dept. of Mathematics,
Indian Institute of Science Education and Research (IISER) Tirupati.

HONORS, GRANTS & SCHOLARSHIPS

2019-2024	Inspire faculty grant, Department of Science and Technology, Government of India..
2017-2018	Post-doctoral research grant, MPIM Bonn.
2016-2017	PBC post-doctoral fellowship, Council of Higher education, Israel.
2016	Honorable Mention, Harish Chandra Memorial Award for best Ph.D. thesis, TIFR.
2010-2015	Research fellowship, TIFR Mumbai. PhD scholarship, National Board of Higher Mathematics, India (not availed). Junior research fellowship and lectureship in Mathematical Sciences, CSIR-UGC (not availed)
2008-2010	M. Math. fellowship, Indian Statistical Institute.

PUBLICATIONS/PREPRINTS

- *Supercuspidal ramification of modular endomorphism algebras*, joint with Eknath Ghate. Proceedings of the AMS, 2015.
- *Reductions of Galois representations for slopes in $(1, 2)$* , joint with Eknath Ghate. Documenta Mathematica, 2015.
- *Reductions of Galois representations of slope 1*, joint with Eknath Ghate and Sandra Rozensztajn. Journal of Algebra, 2018.
- *Reduction of certain crystalline representations and local constancy in the weight space*. Journal de Théorie des Nombres de Bordeaux, 2020.
- *Weights for mod p quaternionic forms in the unramified case*. joint with Abhik Ganguli. Submitted.
- *On Crystalline representations modulo 2*. joint with Arathy Venugopal. In preparation.

TEACHING

Spring 2019:	Single variable calculus, for BsMs 2nd semester. Basic structures in Mathematics (Part 1-algebraic structures), for BsMs 4th semester.
Monsoon 2019:	Elementary number theory, for BsMs 5th semester.
Spring 2020:	Measure theory and integration, for BsMs 6th semester. Basic structures in Mathematics (Part 1-algebraic structures), for BsMs 4th semester.
Monsoon 2020:	Fields and Galois theory, for BsMs 7th semester. (Online mode.)

Spring 2021: Rings and modules, for BsMs 6th semester.
 Basic structures in Mathematics (Part 1-algebraic structures), for BsMs 4th semester.

Monsoon 2021: Elementary number theory(partial), for BsMs 5th semester.

Spring 2022: Rings and modules, for BsMs 6th semester.

Monsoon 2022: Linear algebra, BsMs 5th semester.
 Basic Mathematics, BsMs 1st semester.

Spring 2023: Commutative algebra, BsMs 8th semester.

Monsoon 2023: Group theory, for BsMs 5th semester.

Spring 2024: Commutative algebra (partial), BsMs 8th semester.

ORGANISATION

December 2019: Local organiser, ATM workshop on ‘Modular forms and Galois representations’.
 Venue: IISER Tirupati, funded by NCM.

INVITED/ CONTRIBUTED TALKS

- *Computing local Galois representations modulo 2.*
 - Rational points on modular curves, ICTS Bengaluru, September 2023.
 - Inter-IISER-NISER Mathematical meet, NISER Bhubaneswar, September 2023.
- *On the reduction of certain Galois representations.*
 Mathematics Departmental webinar,
 Ulsan National Institute of Science and Technology, South Korea, February 2022.
- *Reduction mod p of Galois representations: an overview.*
 Early stage mathematician lecture. IWM Annual Conference (virtual), January 2022.
- *Quaternionic eigenforms and associated Serre weights.*
 Chennai-Tirupati number theory conference, August 2020. Virtual mode.
- *The reduction of Galois representations and local constancy in the weight space.*
 ICTS Bangalore, September 2019.
- *An introduction to p -adic and mod p Galois representations (four lectures).*
 ISI Kolkata, April 2019.
- *Local constancy of the reduction of Galois representations in the weight space.*
 IMSc Chennai, February 2019.
 Sanghai Centre of Mathematical Sciences, Sanghai, December 2018.
- *On the reduction of Galois representations and local constancy with respect to weight.*
 University of Luxembourg, and NISER Bhubaneswar, July 2018.

- *Galois representations and reduction mod p .*
Number theory lunch seminar, MPIM Bonn, December 2017.
- *New guests at MPIM.*
Oberseminar, MPIM Bonn, November 2017.
- *On the reduction of Galois representations for slope 1.*
IIT Kanpur, and IISER Mohali, March 2017.
- *Some applications of the Bruhat-Tits tree for GL_2 .*
Bar-Ilan students' seminar, January 2017.
- *The symmetric powers mod p and related topics (three lectures).*
Representation theory seminar, Bar-Ilan University, November 2016.
- *On the reduction of Galois representations.*
Algebra seminar, Bar-Ilan University, Israel, March 2016,
Indian Statistical Institute, Kolkata, January 2016.
- *Symmetric powers mod p and its subrepresentations.*
Students' seminar, TIFR Mumbai, November 2015.
- *Supercuspidal ramification of modular endomorphism algebras.*
International Conference on Algebraic Number Theory and Modular Forms,
Pune University, January 2015.
- *Mod p reduction of certain Galois representations.*
Students' seminar, TIFR Mumbai, November 2014.
- *Mod p representations of $GL(2, F)$.*
Students' seminar, TIFR Mumbai, January 2014.
- *Hilbert Modular forms.*
Workshop on Hilbert Modular forms and Varieties, KSOM, January 2013.
- *The Brauer group and Galois cohomology.*
Students' seminar, TIFR Mumbai, July 2012.

April 5, 2024