Curriculum Vitae

Name: Ratnadeep Acharya
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Current Affiliation (08.12.2023- present)

Assistant Professor, Ramakrishna Mission Vidyamandira,
(A residential autonomous college under University of Calcutta with CPE status);
Belur Math, Howrah, West Bengal, 711202, India.

Education

Ph.D. in Mathematics, Indian Statistical Institute, Kolkata
Supervisor: Dr. Satadal Ganguly.
Thesis title: On the Distribution of Hecke Eigenvalues.
Focus: Analytic Number Theory.
PhD. thesis submission date: June 30, 2017.
PhD. viva voce date: March 15, 2018.

Master of Science in Pure Mathematics
School of Mathematical Sciences, Ramakrishna Mission Vivekananda University, 2011.

Bachelor of Science in Mathematics
Presidency College, University of Calcutta, 2009.

Post Doctoral Position(s)

Harish-Chandra Research Institute	(02.05.2018 - 17.07.2023).
Ramakrishna Mission Vivekananda Educational and Research Institute	(16.04.2019 - 30.04.2022).
Harish-Chandra Research Institute	(14.05.2018 - 15.04.2019).

Previous Teaching Position(s)

Assistant Professor, SRM University-AP	(19.07.2023 - 02.12.2023).

Teaching Interest

Abstract and Linear Algebra,
Real and Complex Analysis,
Geometry and Topology,
Elementary and Analytic Number Theory,
Probability and Statistics.

Courses Taught

- Elementary Number Theory, M.Sc. 1^{st} semester, Fall 2021,
  Ramakrishna Mission Vivekananda Educational and Research Institute.
- Real Analysis 2, B.Sc. 3^{rd} semester, Fall 2023,
  SRM University-AP.
- Linear Algebra, B.Tech. 3^{rd} semester, Fall 2023,
  SRM University-AP.

Research Interest

Analytic Number Theory (Arithmetic aspects of automorphic forms, Exponential sums involving Fourier coefficients of cusp forms, Subconvexity bounds for L-functions associated with cusp forms).

Publication(s)

- R. Acharya : *An analogue of the Bombieri-Vinogradov theorem for Fourier coefficients of cusp forms*, **Mathematische Zeitschrift**, 288 (2018), no. 1–2, 23–37.
- R. Acharya : *Strong orthogonality between the Möbius function, additive characters and coefficients of the L-functions of degree three*, **Journal of Number Theory**, 203 (2019), 211–229.
- R. Acharya, S. Kumar, G. Maiti & S. Singh : *Subconvexity Bound For $GL(2)$ L-functions: t-aspect*, **Acta Arithmetica**, 194 (2020), 111–133.
- R. Acharya & S. Singh : *An exponential sum involving Fourier coefficients of eigenforms for $SL(2, Z)$*, **The Ramanujan J** 54 (2021), 699–716. (2020).
- R. Acharya : *Exponential sums of squares of Fourier coefficients of cusp forms*, **Proc. Indian Acad. Sci. Math. Sci.** 130, 24 (2020).
- R. Acharya : *A twist of the Gauss Circle Problem by holomorphic cusp form*, **Research in Number Theory**, 8(1), 1-14, (2022).
- R. Acharya, P. Sharma & S. Singh : *t-aspect subconvexity for $GL(2) \times GL(2)$ L-function*, **Journal of Number Theory**, 240, 296-324 (2022).
- R. Acharya, S. Drappeau, S. Ganguly & O. Ramare : *A Modular Analogue of a Problem of Vinogradov*, **The Ramanujan Journal**, 62(2), 365–382, 2023.

Submitted Articles:

- R. Acharya : *On the interface of Sato-Tate Conjecture and small gaps between primes.*
- R. Acharya : *Rational approximation and certain exponential sums involving Hecke eigenvalues of cusp forms.*

Articles under preparation:

- R. Acharya & L. Vaishya : *Oscillation of Hecke eigenvalues at integers represented by binary quadratic forms.*
- R. Acharya & M. Pandey : *On effective multiplicity one for modular forms of half-integral weight*

Awards and Fellowships

NBHM Post-doctoral fellowship, 2018.

CSIR NET JRF, December, 2010.

GATE, 2010.

NBHM MSc fellowship, 2009.

Selected Workshops and Conferences

International Conference in Number Theory (KSOM, Kozhikode, January 9, 2017–January 13, 2017).

ATMW on Analytic Number Theory (ISI, Kolkata, December 26, 2017–December 30, 2017).

Workshop on L-functions (IIT, Bombay, June 25–30, 2018).

International Conference on Class Group of Number Fields and Related Topics-2018 (HRI, Allahabad, October 8–11, 2018).

Workshop on Number Theory (NISER, Bhubaneswar, November 30–December 6, 2018).

Conference on Number Theory, (KSOM, Kozhikode, December 10–14, 2018).

Workshop on Additive Combinatorics, (ICTS, Bengaluru, Feb 23–Mar 6, 2020).

Online Workshop on "Modular Forms" (IIT Guwahati, Dec 14–Dec 19, 2020).

Discussion meeting "L-functions, Circle-Method and Applications (HYBRID)" (ICTS Bengaluru, June 27– July 01, 2022).

Conference in Analytic Number Theory (ISI Kolkata, February 06–10, 2023).