



Personal Information

- **Surname** : CHOUDHURY
- **First name** : UTSAV
- **Designation** : Assistant Professor
- **Division and Unit** : Statistics and Mathematics Unit, Kolkata.
- **Address for Communication** : Indian Statistical Institute, Statistics and Mathematics Unit. Plot No, 203, Barrackpore Trunk Road, Dunlop, Bonhooghly Government Colony, Baranagar, West Bengal 700108.
- **E-mail** : prabrishik@gmail.com.
- **Date of Birth** : April 18 th, 1986.

Details of Educational Qualification

- 2001 **Secondary examination**, *Behala Aryya Vidyamandir*, Kolkata.
- 2003 **Higher secondary examination**, *Narendrapur Ramakrishna Mission Residential College*, Kolkata.
- 2003–2006 **BSc (Hons.) Mathematics**, *Chennai Mathematical Institute*, Chennai, Full Scholarship, National Undergraduate Program in Mathematics.
- 2005 summer **Visiting Student Research Program**, *TIFR*.
- 2006 summer **CMI, India- ENS, Paris exchange program**, *Paris*.

Project ENS-CMI exchange program

Title Irreducible representations of $GL(2, K)$ where K is a finite field
Supervisor Prof. Rachel Ollivier

- 2006–2008 **Masters in Mathematics**, *University of Paris 11, University of Padova*, Full Scholarship, ALGANT masters program in Mathematics..

Masters Thesis

Title *Homotopy theory of schemes and A^1 -fundamental groups*
Supervisor Prof. Luca Barbieri Viale

- November, 2008 –2013 **Ph.D**, *University of Zürich*, Zürich.
January

Doctoral Thesis

Title *Some contributions to motives of Deligne–Mumford stacks and motivic homotopy theory*
Supervisor Prof. Joseph Ayoub

Employment

- 01-04-2013 to 31-07-2013 **Visiting scientific researcher**, *University of Duisburg-Essen*, Germany.

- 23-29 June **Oberwolfach workshop on algebraic K-theory and motivic cohomology**, 2013 *Oberwolfach Leibniz Graduate Students grant*.
- 2013-2015 **Humboldt Post-Doctoral Fellow**, *University of Duisburg-Essen and University of Osnabruck*, Germany.
- 2015-2017 **Assistant Professor**, *RKMVERI, Belur*, India.
- 2017-2018 **Assistant Professor**, *IISER, Kolkata*, India.
- Since 2018, **Assistant Professor**, *ISI, Kolkata*, India.
2nd July

Publication

- **Choudhury U.**;Gallauer Alves de Souza M. **Homotopy theory of dg sheaves**, Communications in Algebra, Volume 47, Year 2019, Pages 3202-3228 DOI:10.1080/00927872.2018.1554744.
- **Choudhury U.**;Hogadi A.**The Hurewicz map in motivic homotopy theory**, Annals of K-Theory, Volume 7, Year 2022, Pages 179-190 DOI:10.2140/akt.2022.7.179.
- **Choudhury U.**;Deshmukh N.;Hogadi A. **The Nisnevich motive of an algebraic stack**, Annals of K-Theory, Volume 8, Year 2023, Pages 245-273 DOI:10.2140/akt.2023.8.245.
- **Choudhury U.**;Roy B. **A^1 -connected components and characterisation of A^2** , Journal fur die Reine und Angewandte Mathematik, Year 2023 DOI:10.1515/crelle-2023-0084.
- **Choudhury U.** **Motives of Deligne-Mumford stacks**, Advances in Mathematics, Volume 231, Year 2012, Pages 3094-3117 DOI:10.1016/j.aim.2012.08.012.
- **Choudhury U.** **Connectivity of motivic H-spaces**, Algebraic and Geometric Topology, Volume 14, Year 2014, Pages 37-55 DOI:10.2140/agt.2014.14.37.
- **Choudhury U.**;Skowera J. **Motivic Decomposition for Relative Geometrically Cellular Stacks**, Communications in Algebra, Volume 44, Year 2016, Pages 648-655, DOI:10.1080/00927872.2014.982807.
- **Choudhury U.**;Gallauer Alves de Souza M. **An isomorphism of motivic Galois groups**, Advances in Mathematics, Volume 313, Year 2017, Pages 470-536 DOI:10.1016/j.aim.2017.04.006.
- **Choudhury, U**; Bhattacharya, A. **Vector bundles**, Texts Read. Phys. Sci., 19, Hindustan Book Agency, New Delhi, 2017, 109–141. ISBN: 978-981-10-6840-9; 978-981-10-6841-6

Teaching after joining I.S.I

Semester long courses

- Fall Semester 2018, Algebraic Structures, B.Stat, 2nd year, ISI, Kolkata.
- Spring Semester 2019, Differential Geometry 1, MMath, 1 st Year, ISI, Kolkata.
- Fall Semester 2019, Analysis 3, BStat, 2nd year, ISI, Kolkata.
- Spring Semester 2020, Algebraic Geometry, MMath, 2nd year, ISI, Kolkata.
- Fall Semester 2020, Algebraic Structures, BStat, 2nd year, ISI, Kolkata.
- Spring Semester 2021, Algebraic Geometry, MMath Second year, ISI, Bangalore.
- Fall Semester 2021, Commutative algebra, MMath 2nd year, ISI, Kolkata.
- Spring Semester 2022, Algebraic Geometry, MMath 2nd year, ISI, Kolkata.
- Fall Semester 2022, p-adic geometry, ISI, Kolkata. The course was for Ph.D students.
- Spring Semester 2023, Algebra 2, MMath 1 st year, ISI, Kolkata.
- Fall Semester 2023, Analysis 3, BStat 2nd year, ISI, Kolkata.
- Spring Semester 2024, Algebra 2, MMath 1 st year, ISI, Kolkata

Masters project supervision

- BS-MS Project , Rajat Kumar Mishra (IISER Kolkata), **The Local Langlands Conjecture for GL_2** .(2019)

- BS-MS Project Monalisa Dutta (IISER Kolkata), **Classification of affine spaces and application to Zariski's Cancellation Problem**. (2019)
- Soumik Ghosh, ISI Kolkata, Masters Project, **Serre Duality, Riemann-Roch for curves and G.A.G.A**, 2019.
- Narendran E, ISI Kolkata, Masters Project, **Quadratic Forms and Milnor's conjecture**. 2022.
- Subham Jaiswal, ISI Kolkata, Masters Project, **The Balmer Spectrum of a Noetherian Ring**, 2023.

Ph.D thesis supervision

- Student Name : **Biman Roy**, since 2020. He is going to submit his thesis in 2024.
- Tentative title of the thesis : **Characterisation of the affine plane and A^1 homotopy theory**.

Post Doctoral Mentorship

- Dr. Provanjan Mallick, Visiting Scientist, 2022.
- Dr. Rupam Karmakar, NBHM Post doctoral fellow, since December 2022.
- Dr. Nilkantha Das, INSPIRE Faculty fellowship, since 2022 August.
- Dr. Sumit Roy, RA 2023, currently Inspire Faculty at SMU, Kolkata
- Dr Koushik Brahma, Visiting Scientist, October, 2023 to December 2023. Currently at CMI post doctoral fellow.
- Dr Soumyadip Das, NBHM postdoctoral fellow, 2023. Currently Assistant Professor, IIT Jammu.

Invited Talks

- Rational connectivity and A^1 -connectivity, ETH Zürich, Pro Doc. 2009.
- Skolem's method, Workshop on the method of Chabauty and Coleman, Pro Doc Arithmetic and geometry, Alpbach, 2009.
- Milnor's Conjecture, Zürich Graduate Colloquium, 2010;
- Diagrams of pairs, Workshop "Motives, periods and transcendence", Pro Doc Arithmetic and geometry, Alpbach, 2011.
- Smooth representation, University of Zürich, 2012.
- Motives of Deligne–Mumford Stacks, University of Osnabrück, 2012;
- Motives of Deligne–Mumford Stacks, University of Münster, 2012.
- Motives of Deligne–Mumford Stacks, University of Freiburg, 2012.
- Representation of Weil groups, University of Zürich, 2013.
- Workshop on "Conservativity Conjecture", TIFR Mumbai, July, 2018. Invited speaker.
- Workshop on Derived Algebraic Geometry. November, 2018. IISER, Pune.
- IIT, Kanpur, Department of Mathematics and Statistics, 2019. Invited to give a colloquium talk.
- CMI online seminar series, 2020. Invited speaker.
- Online Motivic homotopy theory seminar, 2021. Invited speaker.
- University of Haifa online topology reading seminar, 2020. Invited speaker.
- IIT Bombay virtual commutative algebra seminar, 2022. Invited speaker.
- IIT, Kharagpur, Department of Mathematics, 2023. Invited speaker.
- Ramanujan Mathematical Society, Annual Conference, 2022, Chennai. Invited speaker. My Ph.D student Mr. Biman Roy received Prof. R. Balakrishnan Endowment Best Paper award for our joint article.
- Topics in Hodge theory, 2023, ICTS, Bengaluru.
- Algebraic cycles, motives and K-theory" at TIFR, Mumbai, 2023. Invited speaker.
- Conference on algebraic Geometry, HRI, 2022. Invited speaker.
- Discussion meeting on Bundles, School of Mathematics, TIFR, Mumbai, March 25-29, 2024.

Courses taught outside ISI

- AIS, Basic Algebraic Geometry. IISER, Pune. July 2018. Gave 4 lectures. Duration of the lectures were 90 minutes.
- Instructional School For Teachers, North-Eastern Hill University (NEHU), Umshing Mawkyroh, Shillong 793022, Meghalaya. June, 2019. Gave 6 lectures and few tutorials. Duration of the lectures were 90 minutes.
- AIS advanced commutative algebra, IIT KGP, December 2019, Gave six lectures and few tutorials. Duration of the lectures were 90 minutes.
- ICTS program on "Perfectoid Spaces" , 09 - 20 September, 2019. Gave two lectures. duration of the lectures were 60 minutes.
- The NCM Workshop on The Bloch-Kato Conjecture, IISER Pune, December 2019. Gave five lectures. Duration of the lectures were 90 minutes.
- Geometry, Analysis and Mathematical Physics. 24th July (Mon) to 2nd August (Wed), 2023. NISER School of Mathematics. Gave 3 lectures. Duration of the lectures were 75 minutes.

Research Interest

Motivic homotopy theory, Theory of motives, Equivariant motivic cohomology and motivic cohomology of algebraic stacks, enumerative geometry, birational geometry, tensor triangulated geometry.

Languages

Bengali Fluent

Mother tongue

Hindi Fluent

English Fluent

German A2-level