Curriculum Vitae

Name : CHIRANTAN CHOWDHURY

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EDUCATION

PostDoc | *Mathematics* — April 2024-
Group: Timo Richarz| TU Darmstadt — Darmstadt,Germany

Visiting Position | *Mathematics* — Nov 2021-Mar 2024
Group: Marc Levine | University of Duisburg-Essen — Essen,Germany

Post Doc | *Mathematics* — Sept 2021-Sep 2023
Group: Marc Levine | University of Duisburg-Essen — Essen,Germany

Ph.D | *Mathematics* — Sept 2018-Sept 2021
Topic: Motivic Homotopy Theory of Algebraic Stacks
Advisor: Jochen Heinloth | University of Duisburg-Essen — Essen,Germany

Masters | *Mathematics* — Oct 2016 –July 2018
Dissertation topic : Bridgeland stability of Curves and Surfaces, Advisor:Paolo Stellari
ALGANT Program:University of Duisburg-Essen, University of Milan — Germany, Italy

Bachelors | *Mathematics and Physics* — Aug 2013 – July 2016
Chennai Mathematical Institute — Chennai, India

RESEARCH INTERESTS

Abstract Six-Functor Formalisms, Motivic Homotopy Theory, Algebraic Stacks, Higher Category Theory, Motivic Langlands.

PUBLICATIONS AND PREPRINTS

1. Six Functor Formalism III : The construction and extension of 6FFs (https://arxiv.org/abs/2412.20548).

2. Six Functor Formalism II : The ∞-categorical compactification (https://arxiv.org/abs/2412.03231).

3. Non-representable six-functor formalisms (j.w. with Alessandro D'Angelo) (https://arxiv.org/abs/2409.20382).

4. Six Functor Formalism I : Constructing functors using category of simplices (https://arxiv.org/abs/2304.11742).

5. The Chow weight structure for geometric motives of quotient stacks (j.w. with Dhyan Aranha) (https://arxiv.org/abs/2306.10557).

6. PhD Thesis: Motivic Homotopy Theory of Algebraic Stacks (Annals of K-theory: https://msp.org/akt/2024/9-1/akt-v9-n1-p01-s.pdf).

TEACHING AND ORGANIZATION OF SEMINARS/WORKSHOPS/CONFERENCES

Workshop on "Abstract Six-Functor Formalisms" — 17 Nov- 19 Nov, 2025
TU Darmstadt — Darmstadt,Germany

Master Course on "Abstract Six-Functor Formalisms" — Oct 24- Feb 25
TU Darmstadt — Darmstadt,Germany

Mini Course on "Quasi-Categories and Barr-Beck-Lurie" — Jan 2024
University of Duisburg-Essen — Essen,Germany

Organizer of Motives Seminar on "Motivc Homotopy Theory of Algebraic Stacks"   Oct 2021-Jan 2022
University of Duisburg-Essen   Essen,Germany

Co-organiser of Research seminar on "Condensed Mathematics"   Apr 2021-July 2021
University of Duisburg-Essen   Essen,Germany

Co-organiser of PhD Seminar on "Crystalline and Prismatic Cohomology"   Oct 2020-Feb 2021
University of Duisburg-Essen   Essen,Germany

Organiser of PhD Seminar on "Hochschild and Cyclic Homology"   Oct 2019-Jan 2020
University of Duisburg-Essen   Essen,Germany

TALKS IN CONFERENCES AND SEMINARS

"Extending Abstract 6FF to Ind and Pro Geometric Setups"   Dec 2025
OberSeminar   Wuppertal,Germany

"Sheaf Theories"   Dec 2025
GAUS AG on "Tame Categorical Local Langlands"   Darmstadt,Germany

" Root Datum"   July 2025
Mini Workshop in Algebraic Groups   Darmstadt,Germany

" Abstract Six-Fun Form and Mot. Hom. Th. of Algebraic Stacks."   May 2025
KTH/SU Seminar   Stockholm, Sweden

" Motivic Homotopy Theory of Algebraic Stacks."   Apr 2025
Recent Developements in Algebraic K-theory   Warwick,United Kingdom

" Motivic Homotopy Theory and Six-Functor Formalisms of Algebraic Stacks."   Feb 2025
Discussion Meeting on Algebraic Geometry   Mumbai,India

"Morava K-theory and E-theory"   Jun 2024
Gaus AG on Chromatic Homotopy theory   Darmstadt,Germany

"Appl. of Six-Functor Formalisms in Mot. Hom. Thy of Alg. Stacks"   Apr 2024
Seminar on Arithmetic Geometry   Darmstadt, Germany

"Connectivity of fibers and cofibers"   Apr 2024
Motives Seminar   Essen, Germany

"Bridgeland Stability Conditions on Surfaces"   Jan 2024
"Variations of GIT quotients"   Essen, Germany

"Appl. of Six Fun. Form. in Mot. Hom. Th. of Alg. Stacks"   Jan 2024
RTG Seminar   Essen, Germany

"Chow Groups and Motive of Hilbert Scheme of Points over a surface"   Nov 2023
Motives Seminar on "An Arithmetic Yau-Zaslov Formula"   Essen, Germany

"Adem Relations"   June 2023
Motives Seminar on "Motivic Steenrod Operations"   Essen, Germany

"Symmetry theorem and Bockstein homomorphism in reduced power operations"   May 2023
Motives Seminar on "Motivic Steenrod Operations"   Essen, Germany

"Chow Witt Rings of Grassmanians"   Nov 2022
Motives Seminar on " Enriched Quadratic Intersection Theory"   Essen, Germany

"Algebraization"   July, 2022
Ph.D Seminar on "Deformation Theory"   Essen, Germany

"Motivic Homotopy Theory of Algebraic Stacks"   April, 2022
FGC-HRI-IPM Joint Number Theory Seminar   Online; Lucknow, India

"Motivic Homotopy Theory of Algebraic Stacks" — March, 2022
Algebraic Geometry Oberseminar, UZH — Online; Zurich,Switzerland

"Motivic Homotopy Theory of Algebraic Stacks" — March, 2022
Seminar on A1 topology, motives and K-theory — Online; St. Petersburg, Russia

"Canonical Models" — Jan, 2022
Ph.D Seminar on "Shimura Varieties" — Essen,Germany

"Motivic Homotopy Theory of Algebraic Stacks" — Dec, 2021
Queen's University Algebra and Geometry Seminar — Online; Ontario, Canada

"Dihedral Extensions" — Dec, 2021
Research Seminar on "Irrationality proofs of Zeta Values" — Essen, Germany

"Motivic Homotopy Theory of Algebraic Stacks" — Summer 2021
RTG Seminar — Essen, Germany

"Berthelot's Construction and Tate's Uniformization of Elliptic Curves" — Summer 2021
Ph.D Seminar on "Formal and Rigid Geometry" — Essen, Germany

"Motivic Homotopy Theory of Algebraic Stacks" — Summer 2021
RTG Seminar — Essen, Germany

"Globalization:II" and "Solid Abelian Groups" — Summer 2020
Seminar on Condensed Mathematics — Online; Organizer: Simon Waldsley

"Crystalline and Semistable Representations" — Summer 2020
Ph.D seminar on "p-adic representations" — Essen,Germany

"Mixed Motives" and "K-Theoretic Regulator Map" — Summer 2020
Seminar on "Bellinson's Conjecture" — Essen, Germany

"Intersection theory for stacks" — Summer 2020
Seminar on Stacks — Essen,Germany

"Perfectoid rings" and "Integral p-adic Hodge theory" — Jan,2020
Ph.D Seminar on "Hochschild and Cyclic Homology" — Essen,Germany

"Descent along sections" — Jan, 2020
Seminar on Stacks — Essen,Germany

"Inner Fibrations" and "Presentable ∞-categories" — Nov-Dec,2019
Seminar on ∞-categories — Essen,Germany

"Simplicial Artin Rings" — Nov, 2019
Research Seminar on "Derived Galois Deformation Rings" — Essen,Germany

"Reminder of Blowups and Examples" — Oct,2019
Forschüng Seminar on "Resolution of Singularities" — Essen,Germany

"Rationality of Motivic Zeta Functions over Curves and Surfaces" — Summer, 2019
Motives Seminar — Essen,Germany

"Q-Construction" — Summer,2019
Ph.D Seminar on "K-Theory" — Essen,Germany

"Motive of Stack of Bundles" — Jan,2019
Seminar on Stacks — Essen,Germany

"Picard Group of $M_{1,1}$" — Dec, 2018
Seminar on Stacks — Essen,Germany

"Bloch's treatment of Mumford's theorem and Bloch-Srinivas decomposition of the diagonal" — Nov, 2019
Motives Seminar — Essen,Germany

"Bridgeland Stability Conditions for Curves and Surfaces" — Aug,2018
Seminar at Indian Statistical Institute,Kolkata — Kolkata,India

CONFERENCES AND WORKSHOPS ATTENDED

Workshop on "Abstract Six-Functor Formalisms"(Organizer) TU Darmstadt	Nov 17- Nov 19, 2025 Essen, Germany
ReMoLD Workshop : Langlands and Duality University of Duisburg-Essen	Oct 5- Oct 9, 2025 Essen, Germany
Geometric Aspects of the Langlands Correspondence University of Duisburg-Essen	Aug 25- Aug 29, 2025 Essen, Germany
Conference on Motives and Arithmetic Geometry TU Darmstadt	July 28- Aug 1, 2025 Darmstadt, Germany
Recent developments in Algebraic K-theory University of Warwick	Apr 7 - Apr 11, 2025 Coventry, UK
Motivic Homotopy theory University of Regensburg	Mar 17- Mar 21, 2025 Regensburg, Germany
Discussion Meeting in Algebraic Geometry TIFR	Feb 10- Feb 14, 2025 Mumbai, India
Algebraic geometry: a motivic view. Conference in honour of Marc Levine ETH	Jan 13- Jan 17, 2025 Zurich, Switzerland
Workshop on Dualizable Categories and Continuous K-theory MPIM	Sep 9- Sep 14, 2024 Bonn, Germany
Recent Advances in Algebraic K-theory IHES	July 8- Juy 21, 2023 Paris, France
Conference on Arithmetic Algebraic Geometry TU Darmstadt	Oct 3-Oct 7, 2022 Darmstadt, Germany
Harnessing Motivic Invariants University of Duisburg-Essen	June 27-July 1, 2022 Essen, Germany
SPP Jahrestagung University of Duisburg-Essen	Sept 30-Oct 2, 2019 Essen, Germany
School on Motives and Stacks University of Duisburg-Essen	Sept 23-Sept 27,2019 Essen, Germany
Computations in Motivic Homotopy Theory University of Regensburg	Sept 16-20,2019 Regensburg, Germany
SFB Conference University of Bonn	June 11-14,2019 Bonn,Germany
Summer School in Arithmetic Geometry University of Salerno	Sept 10-14,2018 Salerno, Italy

SKILLS

Languages: Bengali (Native), Hindi(Fluent), English (Fluent), German (basic).

LINKS

Link to my personal website : https://chirantanc474.wixsite.com/mathalggeo