SHUBHODIP MONDAL

Email: mondal@mpim-bonn.mpg.de
Phone: +49 (0) 228-402-306
Website: http://www-personal.umich.edu/~smondal/

Office: 307
Max-Planck-Institut für Mathematik
Vivatsgasse 7, Bonn, 53111

CURRENT POSITION

Postdoctoral fellow September 2022 - Present
Max-Planck-Institut für Mathematik, Bonn, Germany.

EDUCATION

Ph.D. in mathematics, September 2017 - August 2022
Advisor: Prof. Bhargav Bhatt
Thesis: $\mathbf{G}_a^{\mathrm{perf}}$-modules and de Rham cohomology
University of Michigan, Ann Arbor, USA.

M. Math, July 2015 - July 2017
Indian Statistical Institute, Bangalore, India.
First Division with Distinction.

B. Math (Hons.), July 2012 - July 2015
Indian Statistical Institute, Bangalore, India.
Honours with Distinction.

RESEARCH INTERESTS

Arithmetic algebraic geomertry, homotopy theory.

PUBLICATIONS

A computation of prismatic Dieudonné module, Acta Arith. 205 (2022), no. 1, 8796.

Reconstruction of the stacky approach to de Rham cohomology, Math. Z. 302 (2022), no. 2, 687693.

On endomorphisms of the de Rham cohomology functor (with Shizhang Li), to appear in Geometry and Topology.

$\mathbf{G}_a^{\mathrm{perf}}$*-modules and de Rham cohomology,* Adv. Math. 409 (2022), Paper No. 108691, 72 pp.

Dieudonné theory via cohomology of classifying stacks, Forum of Mathematics, Sigma, Vol. 9 (2021), e81.

Surjectivity of maps induced on matrices by polynomials and entire functions, The American Mathematical Monthly Vol. 124, No. 3. (2017)

PREPRINTS

Unipotent homotopy theory of schemes (with Emanuel Reinecke), available at arXiv:2302.10703 (2023)

On Postnikov completeness for replete topoi (with Emanuel Reinecke), available at arXiv:2210.14146 (2022)

Ind-étale vs formally étale (with Alapan Mukhopadhyay), available at arXiv:2209.09392 (2022)

SELECTED TALKS

Upcoming, Algebraic geometry and cohomology in mixed characteristic, Northwestern University. 2023

Upcoming, Séminaire d'Arithmtique et de Géométrie Algébrique, Université Paris-Saclay. 2023

Upcoming, Arithmetic/Algebraic Geometry seminar, Harish-Chandra Research Institute. 2023

Unipotent homotopy theory of schemes, Réseau des Étudiants en Géométrie Algébrique, Université Paris-Saclay. 2023

Categorical local Langlands, Arithmetische Geometrie-Oberseminar (ARGOS), Universität Bonn. 2023

Unipotent homotopy theory of schemes, AG seminar, University of Regensburg. 2022

Unipotent homotopy theory of schemes, Algebra/Topology seminar, University of Copenhagen. 2022

On p-adic de Rham cohomology, University of Chicago Number Theory seminar, University of Chicago. 2022

On p-adic de Rham cohomology, Algebra/Topology Seminar, University of Copenhagen. 2022

On p-adic de Rham cohomology, RTG Number theory, University of Michigan. 2021

On p-adic de Rham cohomology, Topology seminar, Northwestern University. 2021

Dieudonné theory via cohomology of classifying stacks, Forschungsseminar Arithmetische Geometrie, Technische Universität München. 2021

Dieudonné theory via cohomology of classifying stacks, Graduate Student Conference in Algebra, Geometry, and Topology, Temple University. 2021

The monodromy of Kodaira-Parshin families, Learning seminar on Lawrence–Venkatesh "Diophantine problems and p-adic period mappings", DRAGON seminar. 2021

Dieudonné theory via cohomology of classifying stacks, RTG number theory seminar, University of Michigan. 2020

Cohomology of $B(\mathrm{Ker})$ and sheaves on the circle, Learning seminar on the filtered circle, DRAGON seminar. 2020

Ind-étale vs Formally étale, Student commutative algebra seminar, University of Michigan 2019

A stacky approach to crystals (following Drinfeld), Preprint algebraic geometry seminar, University of Michigan. 2019

Deligne's Theorem, Arithmetic Geometry Seminar, University of Michigan. 2018

Total p-differentials on schemes over $\mathbf{Z}/p^2$ (following Dupuy-Katz-Rabinoff-Brown), Preprint algebraic geometry seminar, University of Michigan. 2018

Vanishing theorems of Kodaira type for Witt canonical sheaves (following Tanaka), Preprint algebraic geometry seminar, University of Michigan. 2017

Carlitz Module II, Arithmetic geometry seminar, University of Michigan. 2017

On the Graded Algebra of Modular Forms, Indian Statistical Institute. 2017

Exceptional Sequences in Derived Categories, Indian Statistical Institute. 2016

Hilbert Polynomial, VSRP, Tata Institute of Fundamental Research, Mumbai. 2016

TEACHING

Math 116 (Calculus II), University of Michigan. Winter 2022

Math 115 (Calculus I), University of Michigan. Fall 2020

Math 116 (Calculus II), University of Michigan. Winter 2020

Math 116 (Calculus II), University of Michigan. Fall 2019

Math 116 (Calculus II), University of Michigan. Winter 2019

Grader for Math 596 (Complex analysis), University of Michigan. Fall 2018

Tutor in Math Learning Center, University of Michigan. Fall 2018

Math 115 (Calculus I), University of Michigan. Winter 2018

Math 115 (Calculus I), University of Michigan. Fall 2017

Probabilistic Methods, Indian National Mathematical Olympiad Training Camp, Bangalore, India. 2015

AWARDS

Indu and Gopal Prasad Family Fund, University of Michigan. 2021

Rackham International Student Fellowship, University of Michigan. 2018-2019

P.C. Panesar Gold Medal, Indian Statistical Institute, for academic performance in M. Math. 2017

Michigan Mathematics Graduate Fellowship, University of Michigan. 2017-2020

Inspire Scholarship, Dept. of Science and Technology, Govt. of India. 2012-2017

SEMINARS CO-ORGANISED

Topological Hochschild Homology and integral p-adic Hodge theory (following Bhatt-Morrow-Scholze), co-organised with Shizhang Li, University of Michigan. 2020

Chromatic homotopy theory, Student seminar, University of Michigan. 2019

Nonexistence of abelian schemes over integers, Student seminar, co-organised with Peter Dillery, University of Michigan. 2019

Perfectoid spaces and p-adic Hodge theory (following Scholze), Student seminar, University of Michigan. 2018