

## SHUBHODIP MONDAL

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Department of Mathematics

University of Michigan

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<b>EDUCATION</b>	<i>Ph.D.</i> student in mathematics, <i>Advisor:</i> Prof. Bhargav Bhatt University of Michigan	September 2017 - Present
	<i>M.Math</i> , Indian Statistical Institute, Bangalore. First Division with Distinction.	July 2015 - July 2017
	<i>B.Math (Hons.)</i> , Indian Statistical Institute, Bangalore. Honours with Distinction.	July 2012 - July 2015
<b>RESEARCH INTERESTS</b>	Arithmetic algebraic geometry, homotopy theory.	
<b>PAPERS</b>	<i>Unipotent homotopy group schemes</i> , with Emanuel Reinecke, In preparation. <i>On endomorphisms of the de Rham cohomology functor</i> , with Shizhang Li, available at arXiv:2109.04303. $\mathbf{G}_a^{\text{perf}}$ -modules and de Rham cohomology, available at arXiv:2101.03146. <i>Dieudonné theory via cohomology of classifying stacks</i> , available at arXiv:2002.05413 (Submitted). <i>Surjectivity of maps induced on matrices by polynomials and entire functions</i> , The American Mathematical Monthly Vol. 124, No. 3. (2017)	
<b>AWARDS</b>	<i>Rackham International Student Fellowship</i> , University of Michigan.	2018-2019
	<i>M.R. Iyer Memorial Gold Medal</i> , Indian Statistical Institute, for academic performance in M.Math.	2017
	<i>Michigan Mathematics Graduate Fellowship</i> , University of Michigan.	2017-2020
	<i>Inspire Scholarship</i> , Dept. of Science and Technology, Govt. of India.	2012-2017
	<i>Indian National Mathematical Olympiad</i> , Participated and obtained certificate of Merit.	2012
<b>TEACHING</b>	<i>Math 115 (Calculus I)</i> , University of Michigan.	Fall 2020
	<i>Math 116 (Calculus II)</i> , University of Michigan.	Winter 2020
	<i>Math 116 (Calculus II)</i> , University of Michigan.	Fall 2019
	<i>Math 116 (Calculus II)</i> , University of Michigan.	Winter 2019
	<i>Grader for Math 596 (Complex analysis)</i> , University of Michigan.	Fall 2018
	<i>Tutor in Math Learning Center</i> , University of Michigan.	Fall 2018
	<i>Math 115 (Calculus I)</i> , University of Michigan.	Winter 2018
	<i>Math 115 (Calculus I)</i> , University of Michigan.	Fall 2017
	<i>Probabilistic Methods</i> , Indian National Mathematical Olympiad Training Camp, Bangalore, India.	2015

**SELECTED  
TALKS**

- $\mathbf{G}_a^{\text{perf}}$ -modules and de Rham cohomology, Topology seminar, Northwestern 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*, Forschungsseminar Arithmetische Geometrie, Technische Universität München. 2021
- Dieudonné theory via cohomology of classifying stacks*, RTG number theory seminar, University of Michigan. 2020
- Lyubeznik numbers of projective varieties depend on the embedding (following Wang)*, Preprint algebraic geometry seminar, University of Michigan. 2020
- Cohomology of  $B(\text{Ker})$  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

**CONFERENCES  
ATTENDED**

- The stacks project workshop*, Online due to covid. 2020
- Arithmetic and Algebraic Geometry*, Ann Arbor, Michigan. 2019
- Derived algebraic geometry and its applications*, MSRI, Berkeley. 2019
- Arizona winter school*, Tucson, Arizona. 2019
- Introductory Workshop: Derived Algebraic Geometry and Birational Geometry and Moduli Spaces*, MSRI, Berkeley. 2019
- Graduate Student Conference in Algebra, Geometry, and Topology*, Temple University, Philadelphia. 2018
- Midwest Algebraic Geometry Graduate Conference*, University of Illinois at Chicago, Chicago. 2018
- Birch and Swinnerton-Dyer Conjecture*, ICTS, Bangalore, India. 2016
- Algebraic Geometry Conference*, Bangalore, India. 2015
- Operator Theory and Complex Geometry*, Bangalore, India. 2015
- Operator Theory and Operator Algebra*, Bangalore, India. 2014

**SEMINARS  
CO-ORGANISED**

- Topological Hochschild Homology and integral  $p$ -adic Hodge theory (following Bhattach 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