

## SHUBHODIP MONDAL

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**EMPLOYMENT**    *Postdoctoral fellow*    September 2023 - Present  
*Mentors:* Kai Behrend, Jim Bryan and Sujatha Ramdorai  
University of British Columbia, Vancouver, Canada

*Member*    January 2024 - July 2024  
*Mentor:* Jacob Lurie  
Institute for Advanced Study, Princeton, USA

*Postdoctoral fellow*    September 2022 - August 2023  
*Mentor:* Peter Scholze  
Max Planck Institute for Mathematics, Bonn, Germany

**EDUCATION**    *Ph.D.* in mathematics,    September 2017 - August 2022  
*Advisor:* Bhargav Bhatt  
*Thesis:*  $\mathbf{G}_a^{\text{perf}}$ -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 geometry, homotopy theory.

**PUBLICATIONS**    *On Postnikov completeness for replete topoi* (with Emanuel Reinecke), to appear in Homology, Homotopy and Applications.

*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), Geometry and Topology 28 (2024) 759-802

$\mathbf{G}_a^{\text{perf}}$ -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**

*Dieudonné theory via cohomology of classifying stacks II*, available at arXiv:2405.12967 (2024)

*p-typical curves on p-adic Tate twists and de Rham-Witt forms* (with Sanath K. Devalapurkar), available at arXiv:2309.16623 (2023)

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

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

**SELECTED TALKS**

*Dieudonné theory via cohomology of classifying stacks*, Tata Institute of Fundamental Research, Mumbai. 2024

*Dieudonné theory via prismatic F-gauges*, Number Theory and Representation Theory seminar, University of Maryland. 2024

*Dieudonné theory via prismatic F-gauges*, Algebraic geometry seminar, University of British Columbia. 2024

*p-typical curves on p-adic Tate twists and de Rham-Witt forms*, Algebraic topology seminar, Columbia University. 2024

*Dieudonné theory via prismatic F-gauges*, Special year seminar, Institute for Advanced Studies, Princeton. 2024

*Formal groups via unipotent homotopy theory*, Short talks by postdoctoral members, Institute for Advanced Studies, Princeton. 2024

*Dieudonné theory (2 lectures)*, Geometric Langlands seminar, University of Chicago. 2023

*Affine stacks*, Algebraic geometry seminar, University of British Columbia. 2023

*Arbeitsgemeinschaft on syntomic cohomology*, Recent Advances in Algebraic K-theory, IHES. 2023

*Unipotent homotopy theory of schemes*, Algebraic geometry and cohomology in mixed characteristic, Northwestern University. 2023

*Unipotent homotopy theory of schemes*, Séminaire d'Arithmétique et de Géométrie Algébrique, Université Paris-Saclay. 2023

*Unipotent homotopy theory of schemes*, 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

	<i>On <math>p</math>-adic de Rham cohomology</i> , RTG Number theory, University of Michigan.	2021
	<i>On <math>p</math>-adic de Rham cohomology</i> , Topology seminar, Northwestern University.	2021
	<i>Dieudonné theory via cohomology of classifying stacks</i> , Forschungsseminar Arithmetische Geometrie, Technische Universität München.	2021
	<i>Dieudonné theory via cohomology of classifying stacks</i> , Graduate Student Conference in Algebra, Geometry, and Topology, Temple University.	2021
	<i>The monodromy of Kodaira-Parshin families</i> , Learning seminar on Lawrence–Venkatesh “Diophantine problems and $p$ -adic period mappings”, DRAGON seminar.	2021
	<i>Dieudonné theory via cohomology of classifying stacks</i> , RTG number theory seminar, University of Michigan.	2020
	<i>A stacky approach to crystals (following Drinfeld)</i> , Preprint algebraic geometry seminar, University of Michigan.	2019
	<i>Exceptional Sequences in Derived Categories</i> , Indian Statistical Institute.	2016
<b>TEACHING</b>	<i>Math 100 (Calculus I)</i> , University of British Columbia.	Winter term 1, 2023
	<i>Math 116 (Calculus II)</i> , University of Michigan.	Winter 2022
	<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
<b>SEMINARS CO-ORGANISED</b>	<i>Reading and learning seminar on perfectoid spaces</i> , co-organised with Sujatha Ramdurai, University of British Columbia.	2023
	<i>Topological Hochschild Homology and integral <math>p</math>-adic Hodge theory (following Bhattach-Morrow-Scholze)</i> , co-organised with Shizhang Li, University of Michigan.	2020
	<i>Chromatic homotopy theory</i> , Student seminar, University of Michigan.	2019
	<i>Nonexistence of abelian schemes over integers</i> , Student seminar, co-organised with Peter Dillery, University of Michigan.	2019
	<i>Perfectoid spaces and <math>p</math>-adic Hodge theory (following Scholze)</i> , Student seminar, University of Michigan.	2018
<b>AWARDS</b>	<i>Indu and Gopal Prasad Family Fund</i> , University of Michigan.	2021
	<i>Rackham International Student Fellowship</i> , University of Michigan.	2018-2019
	<i>P.C. Panesar 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