

# Arnab Kundu

Researcher, Age: 26 years

Department of Mathematics  
University of Toronto, St. George Campus  
✉ [arnab.kundu@utoronto.ca](mailto:arnab.kundu@utoronto.ca)  
<http://www.math.toronto.edu/arnabk/>

## Employment

Sept 2023 – **Post-Doctoral Fellow**, *University of Toronto*, Toronto, Canada, in the group of Prof. [Elden Elmanto](#).

## Education

Sept 2020 – Aug 2023 **PhD in Mathematics**, *Université Paris-Saclay*, Orsay, France, under the supervision of Prof. [Kęstutis Česnavičius](#).  
Thesis: Torsors on Smooth Algebras over Valuation Rings

Sept 2018 – Aug 2020 **Master : Mathématiques Fondamentales**, *Sorbonne Université*, Paris, France, Score - 18.9/20.  
Mention: Très Bien

Aug 2015 – July 2018 **B.Sc.(Hons.)**, *Chennai Mathematical Institute*, Chennai, India, *CGPA* - 9.83.  
Mathematics and Computer Science Undergraduate

## Preprints

[ArXiv link](#) **Gersten's injectivity in the non-Noetherian world**, *in preparation*.  
**Purity over valuation rings**, *in preparation*.

## Publications

[Official Version](#) **Torsors on smooth algebras over valuation rings**, *Thesis*.  
[jrms:2023-038...](#) **Tilting Correspondences of Perfectoid rings**, *J. Ramanujan Math. Soc.* **38**, No. 1 (2023) 23–32.

## Achievements:

- Received **FSMP** (Fondation Sciences Mathématiques de Paris) PSGM Masters 2018-2020 scholarship.
- Received a **Gold Medal** for the best undergraduate academic record of the 2018 batch.
- Attended the Indian **IMO training camp** in '13, '14 and '15 at HBCSE, Mumbai.

## Mathematical Visits

17 Feb - 20 Feb '23 **KTH, Stockholm**, *invited by David Rydh*.  
28 Nov - 2 Dec '22 **Technische Universität Darmstadt**, *invited by Timo Richarz*.

---

## Talks

- December 2023 **Special Session on Homotopy Theory**, *Montréal*, Gersten's injectivity in the non-Noetherian world.
- November 2023 **Algebraic Geometry Seminar**, *Toronto*, Gersten's injectivity in the non-Noetherian world.
- **Arithmetic and Algebraic Geometry Seminar**, *Allahabad*, Gersten's injectivity in the non-Noetherian world.
- April 2023 **Algebra and Geometry Seminar**, *Stockholm*, Tilting Correspondences of Perfectoid Rings.
- January 2023 **Algebraic Geometry Seminar**, *Purdue*, Torsors on Valuation Rings.
- **Algebra and Geometry Seminar**, *Stockholm*, Torsors on Valuation Rings.
  - **Stacks Seminar**, *Essen*, Torsors on Valuation Rings.
  - **Arithmetic and Algebraic Geometry Seminar**, *Amsterdam*, Torsors on Valuation Rings.
- December 2022 **Arithmetic Geometry Seminar**, *Heidelberg*, Torsors on Valuation Rings.
- **Seminar on Arithmetic Geometry**, *Darmstadt*, Torsors on Valuation Rings.
- November 2022 **Preprint Seminar**, *Paris*, Torsors on the Complement of a Smooth Divisor.
- **Seminar of PhD students**, *Orsay*, Torsors on Smooth Schemes.
- October 2022 **Seminar Mathjeunes**, *Paris*, Torsors on Valuation Rings.
- June 2022 **Seminar SAGA**, *Orsay*, Tilting Correspondences of Perfectoid Rings.
- December 2021 **Seminar RéGA**, *Paris*, Tilting Correspondences of Perfectoid Rings.

---

## Teaching Experience

- Spring 2024 **MAT344 Intro to Combinatorics**.
- Fall 2023 **MAT223 Linear Algebra I**, *Instructor*, University of Toronto, Canada.
- Fall 2022, 2021 & 2020 **Mathematics - 1**, *Teacher*, Institut Universitaire de Technologie (IUT), Cachan, France
- Fall 2016 **Analysis 1**, *Teaching Assistant*, Chennai Mathematical Institute(CMI), Chennai, India.
- January 2016 **INMO Training Camp Chennai**, *Instructor*.

---

## Workshops and Conferences

- Summer 2024 **Algebraic K-theory and Brauer Groups**, *Oaxaca, Mexico*.
- Spring 2024 **Workshop on p-adic Arithmetic Geometry (Spring)**, *IAS, Princeton, USA*.
- Fall 2023 **2023 CMS Winter Meeting (Special Session on Homotopy Theory)**, *Montréal, Canada*.
- **Workshop on p-adic Arithmetic Geometry (Fall)**, *IAS, Princeton, USA*.

- Summer 2023 **Stacks Project Workshop 2023**, *University Of Michigan*, Ann Arbor, USA.
- **Summer School 2023**, *University of Wuppertal*, Wuppertal, Germany.
  - **Recent Advances in Algebraic K-Theory**, *IHES*, Bures-sur-Yvette, France.
- Spring 2023 **International Workshop on Motives**, *University of Tokyo*, Tokyo, Japan.
- Spring 2022 **Franco-Asian Summer School on Arithmetic Geometry**, *CIRM*, Luminy, France.
- **Géométrie Algébrique en Liberté (GAeL) XXIX**, *Université Paris-Saclay*, Orsay, France.
  - **Cohomology of Varieties**, *IMPAN*, Warsaw, Poland.
  - **Kleine AG: Weil Conjectures**, *Universität Bonn*, Germany.
- Fall 2019 **Perfectoid Spaces**, *ICTS*, Bangalore, India.
- Summer 2019 **Arithmetic Geometry in Carthage**, *Tunisian Academy Beit al-Heikma*, Carthage, Tunisia.
- Summer 2018 **École Jeunes Chercheurs en Théorie des Nombres 2018**, *Université de Franche-Comté Laboratoire de Mathématiques de Besançon*, Besançon, France.
- Winter 2017 **ATMW Analytic Number Theory**, *ISI*, Kolkata, India.
- Winter 2016 **Theoretical and Computational Aspects of the Birch and Swinnerton-Dyer Conjecture**, *ICTS*, Bangalore, India.

## Organisation of Seminar

- Fall 2023 **Seminar on the Grothendieck–Serre Conjecture**, *University of Toronto*, Toronto, Canada.
- 2022-2023 **Seminaire Réseau des étudiants en Géométrie Algébrique (RéGA)**, *Institut Henri Poincaré(IHP)*, Paris, France, [Website](#).

## Languages

Bengali (Native), English, French, Hindi German (Learning)

## Computer skills

Programming Python, Haskell, C++, Java Web design HTML, CSS