Debanjana Kundu
Curriculum Vitae

Last Updated: November 9, 2020

PERSONAL DETAILS

Birth	January 6, 1993
Address	CRM, 2940-2950 Polytechnique Rd, Montreal, Quebec H3T 1J4
Phone	(+1) 437-344-2592
Mail	dkundu@math.toronto.edu

EDUCATION

Class X   **2008**
CBSE (India)
98.6% (Mathematics 99, Science 99, English 93)

Class XII   **2010**
CBSE (India)
93.2% (Mathematics 98, Chemistry 95, Physics 91, English 94)
(Top 1% in both class X and class XII.)

BS-MS Dual Degree   **2010-2015**
Indian Institute of Science Education and Research, Mohali, India
CGPA 9.7

MA PhD   **2015-2020**
University of Toronto, Toronto, Canada

EMPLOYMENT

Université de Montréal   **Fall 2020**
CRM-ISM PostDoc, Thematic Program: Cohomology in Arithmetic

University of British Columbia, Vancouver   **starting January 2021**

PIMS PostDoc Fellow

PUBLICATIONS/ PREPRINTS

1. Perfect Powers that are Sums of Squares of an AP (with V. Patel)
   pre-print available on arXiv, submitted

2. Growth of Fine Selmer Groups in Infinite Towers
   Accepted for publication (Canadian Mathematics Bulletin)

3. Growth of p-Fine Selmer Groups and p-Fine Shafarevich-Tate Group in $\mathbb{Z}/p\mathbb{Z}$-Extensions
   Accepted for publication (Journal of the Ramanujan Math Society)

4. Growth of Fine Selmer Groups in Uniform pro-p Extensions
   Accepted for publication (Annales Mathématiques du Québec)

FELLOWSHIPS

INSPIRE Fellowship   2010-2015
Department of Science and Technology, Government of India

JNCASR Summer Fellowship   2012
JNCASR, India

DAAD WISE Scholarship   2013
Germany

IAS Summer Fellowship (not availed)   2013
Indian Academy of Sciences, India

MITACS Globalink Research Internship   2014
Canada

Rhodes Scholarship finalist (top 18)   class of 2015
Oxford University, UK

TIFR VSRP Fellowship   2015
TIFR, India

BIGS Scholarship for Graduate Studies (not availed)   2015-2018
Hausdorff Center for Mathematics, Bonn, Germany

MITACS Graduate Fellowship   2015 - 2018
Canada

Vivekananda Graduate Award for International Students 2018 - 2019
University of Toronto

General Motors Women in Mathematics and Science Award 2019 - 2020
University of Toronto

CRM-ISM Postdoctoral Fellowship   Fall 2020
Université de Montréal

PIMS Postdoctoral Fellowship   Jan 2021-
                                                          Dec 2022
University of British Columbia, Vancouver

SEMINARS

Introduction to Game Theory   Aug 2012
Mathematics Club, IISER Mohali

27 Lines on a Cubic	Nov 2013
Department Colloquium, IISER Mohali	
Proofs of Quadratic Reciprocity	April 2014
Department Colloquium, IISER Mohali	
Linear Groups- Malcev's Theorem and Selberg's Lemma	April 2014
IISER Mohali	
Principal L-Functions of the Linear Group	August 2016
Department of Math, University of Toronto	
Understanding the Rank Distribution Conjecture	Nov 2016
Graduate Seminar, Department of Math, University of Toronto	
What is an Elliptic Curve?	April 2017
Graduate Seminar, Department of Math, University of Toronto	
Fun with Tilings	Fall 2018
Graduate Seminar, Department of Math, University of Toronto	
Möbius Functions and Number Theory	Summer 2019
Math Camp, Department of Math, University of Toronto	
Pigeonhole Principle and its Applications	January 2020
Graduate Seminar, Department of Math, University of Toronto	
Iwasawa Theory and Pseudo-nullity Conjectures	January 2020
Invited talk, Algebra & Number Theory Seminar, University of Laval	
Iwasawa Theory of Fine Selmer Groups	January 2020
Invited talk, QVNTS, Montreal	
Overview of Iwasawa Theory	October 2020
Invited talk, Junior Number Theory Seminar, University of Toronto	
Iwasawa Theory of Fine Selmer Groups	November '20
Invited talk, Fields Number Theory Seminar video	
TBA	Winter 2021
Invited talk, PIMS Online Colloquium	

CONFERENCES, WORKSHOPS AND SUMMER SCHOOLS

GANITA Conference, The Fields Institute	June 2016
participant	
Summer Graduate School, MSRI	July 2016
Summer school on Introduction to Character Theory and the McKay Conjecture.	
PIMS Summer School, UBC Vancouver	July 2016
Summer School on Representation Theory of Finite Groups	
Fields Medal Symposium, The Fields Institute	Nov 2016
participant	
Montreal-Toronto Workshop in Number Theory, CRM	Dec 2016
Workshop on Mock Modular Forms	
5 Day Workshops at BIRS, Banff	July 2017
Workshop on Diophantine Approximation and Algebraic Curves	
Summer Graduate School, MSRI	July 2017
Summer school on Automorphic Forms and Langlands Program	
AIM Workshop, San Jose	Dec 2017
Workshop on Functoriality and the Trace Formula	
Montreal-Toronto Workshop in Number Theory, CRM	January 2018
Workshop on Unitary Shimura Varieties	
Arizona Winter School, Tucson	March 2018
Winter school on Iwasawa Theory	

PIMS Focus Period, UBC Vancouver	March 2018
Focus Period on Representations in Arithmetic	
Upstate Number Theory Conference, SUNY Buffalo	April 2018
Young Researchers Conference	
Strength in Numbers, Queen's University	May 2018
Graduate Student Conference, Contributed talk	
CTNT Summer School, University of Connecticut	May 2018
Summer School and Conference	
CNTA Conference, Universite Laval	July 2018
Contributed talk	
Montreal-Toronto Workshop in Number Theory, CRM	March 2019
Workshop on p-adic Hodge Theory	
John H. Barrett Memorial Lectures, University of Tennessee	May 2019
participant	
Analytic & Combinatorial Number Theory, UIUC	June 2019
Contributed talk	
SOGMSC, University of Guelph	June 2019
Contributed talk	
Boston University-Keio University Workshop	June 2019
Contributed talk	
PAlmetto Number Theory Seminar (PANTS) XXXII	Sep 2019
Invited talk	
Maine-Quebec Number Theory Conference	October 2019
Contributed talk	
MAAIM, Emory University	Nov 2019
Contributed talk	
CMS Mini-Course on Iwasawa Theory	Dec 2019
Co-organizer with R. Sujatha	
CTNT Conference, University of Connecticut	June 2020
Contributed talk slides	
Maine-Quebec Number Theory Conference	Fall 2020
Contributed talk slides video	
John's Hopkins Junior Number Theory Days	Dec 2020
Invited Talk	
AIM Workshop, Online	Jan 2021
Workshop on Arithmetic Intersection Theory on Shimura Varieties	
CMS Summer Meeting	June 2021
Invited talk, Session: Algebraic Number Theory	
PIMS-Germany School on Eigenvarieties	2021
Participant	

LEARNING SEMINARS ORGANIZED/ PARTICIPATED

Summer Learning Seminar on Modular Forms	Summer 2017
Graduate Seminar, Department of Math, University of Toronto	
Summer Learning Seminar on Galois Cohomology	Summer 2017
Graduate Seminar, Department of Math, University of Toronto	
Introduction to Automorphic Forms and Langlands Program	Fall 2017
Graduate Seminar, Department of Math, University of Toronto	
Learning Seminar on Classical Iwasawa Theory	Fall 2017
Graduate Seminar, Department of Math, University of Toronto	

Learning Seminar on Beyond Endoscopy   2017-18
Graduate Seminar, Department of Math, University of Toronto
Learning Seminar on Etale Cohomology   Winter 2018
Graduate Seminar, Department of Math, University of Toronto
Learning Seminar on Complex Multiplication   Fall 2018
Graduate Seminar, Department of Math, University of Toronto
Learning Seminar on p-adic Lie Groups   Summer 2019
Graduate Seminar, Department of Math, University of Toronto
Learning Seminar on Tate Conjectures   Fall 2019
Graduate Seminar, Department of Math, University of Toronto
Learning Seminar on Abelian ℓ-Adic Representations Summer 2020
Graduate Seminar, Department of Math, University of Toronto
Learning Seminar on Euler system and Eisenstein congruences Fall 2020
Iwasawa Seminar, Department of Math, UBC Vancouver
CRM Women's Seminar   Fall 2020
Part of the thematic program at CRM
Learning Seminar on Coleman Families of Modular Forms   Fall 2020
Part of the thematic program at CRM webpage

TEACHING ASSISTANCE EXPERIENCE (UNIVERSITY OF TORONTO)

MAT223 (Linear Algebra)   Fall/Winter 2015 − 16

Instructor: Mr. Sean Uppal

MAT235 (Multivariable Calculus)   Fall/Winter 2018 − 19

Instructor: Dr. Nara Jung

MAT237 (Multivariable Calculus)   Summer 2016, Fall/ Winter 2018 − 19

Instructor: Dr. Tyler Holden, Prof. Robert Gerrard

MAT240 (Linear Algebra for Math Specialists)   Fall 2016; Fall 2017

Instructor: Prof. Eckhard Meinrenken

MAT246 (Concepts in Abstract Math)   multiple times

Instructor: Dr. J Korman, Dr. H Soheil, Prof. F Murnaghan, Dr. D. Burbulla

MAT247 (Linear Algebra II for Math Specialists)   Winter 2018
Instructor: Prof. Stephen Kudla

MAT315 (Elementary Number Theory)   Winter 2020
Instructor: Prof. Henry Kim

MAT336 (Elements of Analysis)   Winter 2017
Instructor: Dr. H Soheil

MAT401 (Polynomial Equations and Fields)   Summer 2017
Instructor: Dr. Jonathan Korman

TEACHING EXPERIENCE

University of Toronto:
MAT188 (Linear Algebra)   Fall 2018
Course Coordinator: Dr. Dietrich Burbulla
MAT136 (Calculus II)   Winter 2019
Course Coordinator: Dr. Sarah Mayes-Tang
MAT136 (Calculus II)   Summer 2019
Course Coordinator along with Daniel Le and Abhishek Oswal
MAT237 (Multivariable Calculus)   Summer 2020
Course Coordinator along with Travis Ens, Armanpreet Pannu, and Ren Zhu

University of British Columbia (Vancouver):
MAT105 (Integral Calculus)   Winter 2021
Course Coordinator: Keqin Liu

SERVICE

Refereed for	Annales Mathématiques du Québec

EXTRA-CURRICULAR ACTIVITIES

Outreach Committee, IISER Mohali   2013 - 2015
I was a student volunteer of the institute Outreach Committee and had made several presentations. Our main focus was to introduce topics of current scientific research to school teachers (of the Punjab Government school system) and bring out the connection between learning science and doing science. We also organized the Annual Science Day for school students in the tri-city area (Chandigarh-Panchkula-Mohali).

MGSA, UofT   2016 - 2020
I was an active member of the Mathematics Graduate Students' Association. For several years, I was a Graduate Planning Committee representative. In addition, for the academic year 2018-19, I was appointed the treasurer.

Math Outreach, UofT   2018-2020
I was a mentor for the high school mentor-ship program. I mentored Anna Krokhine for her research project on graph theory and combinatorics in 2018. In 2019, I mentored Maya Bozzo-Rey on her project on Benford's Law. In 2020, my student, Jennifer Wang explored questions from number theory.

Women in Math, Toronto Chapter   2019-2020
Female graduate students from schools in and around the Greater Toronto Area came together for WiM, Toronto Chapter in 2019. I was a part of the core team and a mentor for incoming graduate students.

SKILLS

Languages	Bengali (mother tongue)
	English (fluent)
	Hindi (fluent)
Software	LaTeX

REFERENCES

Available upon request