

Badri Vishal Pandey

CONTACT INFORMATION

Mathematical Institute
Universität zu Köln
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RESEARCH INTERESTS

Analytic and Algebraic Number Theory

EDUCATION

Universität zu Köln, Köln, Germany

Post-doc March, 2023 - February, 2026

Mathematics

Supervisor: **Prof. Dr. Kathrin Bringmann**

W3 Professor (full professor), Mathematical Institute,
University of Köln

University of Virginia, Charlottesville, VA

PhD July, 2019 - December, 2022.

- *Mathematics*

Thesis title: On Higher Turán Inequalities for the Plane Partitions, Ellipsoidal T -Designs, and j -Inversion

Thesis advisor: **Ono, Ken**

Marvin Rosenblum Professor of Mathematics, Department of Mathematics,
University of Virginia.

Indian Statistical Institute, Bangalore, India

M.Math July, 2017-2019.

- *Mathematics*

Indian Statistical Institute, Bangalore, India

B.Math(Hons.) July, 2014-2017.

- Major: *Mathematics*

PAPERS AND PUBLICATIONS

- Modular forms and Ellipsoidal T -designs, [The Ramanujan Journal](#)
- Inversion Formulas for the j -function Around Elliptic Points (Co-author: De Las Penas Castano A), [Archiv der Mathematik](#)
- Higher Order Turán Inequalities for the Plane Partition Function (submitted)

- Linear congruence relations for exponents of Borcherds products (Co-author: Mono A) (submitted)

TALKS

- Inversion of the Modular j -function
KSCSTE, Kerala February 02, 2023
- Inversion of the Modular j -function
IMSc, Chennai January 25, 2023
- Higher Turán Inequalities for the Plane Partitions
Indian Statistical Institute, Bangalore January 19, 2023
- On Higher Turán Inequalities for the Plane Partitions, Ellipsoidal T -Designs, and j -Inversion
Graduate seminar, University of Virginia May, 2022
- Inversion of the Modular j -function
NISER, Bhubneswer May, 2022
- Ellipsoidal T -design
18th Nagoya combinatorial seminar December 17, 2020
- Lightning Rounds by graduate students,
UVA Undergraduate Math Club March 03, 2020

TEACHING EXPERIENCE

- *Mentor for Directed Reading Program at University of Virginia,* Fall 2022
- *Teaching Assistant for Research Experiences for Undergraduates at the University of Virginia,* Summer 2020
- *Teaching Assistant for Research Experiences for Undergraduates at the University of Virginia,* Summer 2021
- *Teaching Assistant for Research Experiences for Undergraduates at the University of Virginia,* Summer 2022
- *Instructor for Math 1220, A survey of calculus 2,* Fall 2021
- *Instructor for Math 1220, A survey of calculus 2,* Spring 2021

- *Instructor for Math 1210, A survey of calculus 1,* Fall 2020
- *Teaching Assistant for Math 3250, Ordinary Differential Equations,* Spring 2020
- *Grader for Math 3310, Basic Real Analysis,* Spring 2020
- *Teaching Assistant for Math 2310, Calculus III,* Fall 2019
- *Grader for Math 4651, Advanced Linear Algebra,* Fall 2019

CONFERENCES AND WORKSHOPS

- *Virginia Mathematics Lecture: Martin Hairer (Imperial College London)* November 29-December 1, 2022
- *100 Years of Mock Theta Functions (attended virtually),* May 22-24, 2022
- *Virginia Mathematics Lecture: Mikhail Khovanov (Columbia)* April 18-20, 2022
- *Virginia Mathematics Lecture: Curtis McMullen (Harvard)* November 8-10, 2021
- *Virginia Mathematics Lecture: Greg Lawler (UChicago)* February 12-14, 2020
- *Virginia Mathematics Lecture: Peter Sarnak (IAS Princeton)* November 4-9, 2019
- *Advanced Instructional School on Topology,* May 2018
National Board of Higher Mathematics
- *Algebraic Geometry,* Dec 2017
Indian Statistical Institute

ACHIEVEMENTS AND SCHOLARSHIPS

- Among top 100* 2019
TIFR Graduate School Admissions Written Exam
- Rank 46* 2018
CSIR UGC National Eligibility Test
- Academic fellowship for excellent performance*
BMath Third year 2017

	<i>Academic fellowship for being second rank holder</i>	
	BMath First year	2014
	<i>Ranked 21 out of 150,000 candidates</i>	2014
	Uttar Pradesh State Engineering Entrance Exam	
REFEREEING	<ul style="list-style-type: none"> • <i>Journal of Number Theory</i> • <i>International Journal of Number Theory</i> • <i>Research in Number Theory</i> • <i>The Ramanujan Journal</i> • <i>Transactions of the American Mathematical Society</i> • <i>Annals of Combinatorics</i> 	
EXTRACURRICULAR ACTIVITIES	<ul style="list-style-type: none"> • <i>ISI intra-college Cricket tournament winner,</i> Indian Statistical Institute, Bangalore center • <i>ISI intra-college Soccer tournament winner,</i> Indian Statistical Institute, Bangalore center • <i>Sports Committee Member,</i> Indian Statistical Institute, Bangalore center • <i>Mentor of first year undergrad,</i> Indian Statistical Institute, Bangalore center 	2018 & 2023 2015 & 2017 2015 2015
TECHNICAL SKILLS	Sage(elementary), Python(elementary), Mathematica, Octave, LaTeX, C, C++, html	