

## Muhammad Atif Zaheer

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CONTACT INFORMATION	417 McAllister Building Department of Mathematics The Pennsylvania State University State College, PA 16803 USA	Phone: (814) 280-3369 E-mail: mvz5421@psu.edu Webpage: <a href="https://sites.google.com/view/mazaheer">https://sites.google.com/view/mazaheer</a>
RESEARCH INTERESTS	Analytic number theory (sieve theory, distribution of the zeros of the Riemann zeta function), algebraic number theory, arithmetic geometry (Tate conjecture)	
EDUCATION	<b>The Pennsylvania State University</b> , State College, Pennsylvania, USA Ph.D. in Mathematics, 2024 - 2029 (expected)  <b>Lahore University of Management Sciences</b> , Lahore, Punjab, Pakistan M.S. in Mathematics, 2022 - 2024 Thesis: On Pair Correlation Conjecture and Bounds for the Averages of Montgomery's $F$ -function Advisor: Emanuel Carneiro  <b>National University of Sciences and Technology</b> , Islamabad, Punjab, Pakistan B.S. in Mathematics, 2018 - 2022	
HONORS AND AWARDS	Jack and Eleanor Pettit Scholarship in Science Eberly College of Science, The Pennsylvania State University September 2024  Invitation to IAS/PCMI Graduate Summer School July 2024 Invited to attend fully funded Graduate Summer School on Motivic Homotopy Theory organized by Institute for Advanced Study and Park City Mathematics Institute (did not attend).  National Management Foundation Gold Medal June 2024 Lahore University of Management Sciences  Dean's Honour Roll June 2024 Lahore University of Management Sciences  100% Merit Scholarship Award 2022 – 2024 Lahore University of Management Sciences Awarded annually by the Department of Mathematics at Lahore University of Management Sciences to the top incoming master's student in mathematics.  High Achiever Award 2022 National University of Sciences and Technology, Islamabad, Pakistan Awarded annually by National University of Sciences and Technology to students for outstanding accomplishments at national and international level.  Winner - Pakistan Calculus Contest 2022 Organized by IBA Sukkur University.  Second Position - National Undergraduate Mathematics Contest 2021 Organized by Punjab University and National Mathematical Society of Pakistan.  Honour Roll 2019 National University of Sciences and Technology	
ACADEMIC EXPERIENCE	<b>The Pennsylvania State University</b> , State College, Pennsylvania, USA Graduate Teaching Assistant August 2024 - present	

- MATH - 441 Matrix Algebra Spring 2025  
Instructor: Alberto Bressan
- MATH - 441 Matrix Algebra Fall 2024  
Instructor: Helge Kristian Jenssen

**Lahore University of Management Sciences, Lahore, Punjab, Pakistan**

Graduate Teaching Assistant September 2022 - June 2024

- MATH - 320 Algebra I Spring 2024  
Instructor: Shaheen Nazir
- MATH - 230 Probability Fall 2023  
Instructor: Sultan Sial
- MATH - 120 Linear Algebra with Differential Equations Summer 2023  
Instructor: Waqas Ali Azhar
- MATH - 205 Introduction to Analysis I Spring 2023  
Instructor: Waqas Ali Azhar
- MATH - 101 Calculus I Fall 2022  
Instructor: Waqas Ali Azhar

CONFERENCES AND WORKSHOPS ATTENDED    The Legacy of John Tate, and Beyond, Harvard University March 2025  
Midwest Arithmetic Geometry and Number Theory Series, Ohio State University March 2025

TALKS    On Pair Correlation Conjecture and Bounds for Averages of Montgomery's  $F$ -function May 2024  
Thesis defense, Lahore University of Management Sciences  
The Pair Correlation of the Zeros of the Riemann Zeta Function November 2023  
Graduate Student Seminar, Lahore University of Management Sciences

Google Page Rank Algorithm June 2023  
Guest lecture for MATH 120, Lahore University of Management Sciences

OUTREACH    Conducted LUMS Math Circles at Government Boys High School, Sukamaidan, Skardu, Gilgit Baltistan, over a span of two weeks as a part of Summer Fiesta organized by the government of Gilgit Baltistan in collaboration with LUMS Learning Institute. July 2023

ACKNOWLEDGMENTS    Mentioned in the fourth edition of texts "Analysis I" and "Analysis II" by Terence Tao, published by Springer and Hindustan Book Agency.