

Akshat Tarun Das

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Education

[†] *Indicates expected*

2017–2022 [†] Ph.D. Mathematics
Department of Mathematics, University of Houston, Houston, Texas, USA
2015–2017 M.Sc. Mathematics
St. Stephen’s College, University of Delhi, Delhi, India
2012–2015 B.Sc. Mathematics
The Maharaja Sayajirao University of Baroda, Vadodara, Gujarat, India

Appointments

2017–Present Teaching Assistant, Department of Mathematics, University of Houston
2017–Present Secretary, UH-AMS Chapter, University of Houston
2016–2017 Vice-President, Ananya-The Placement Cell, Department of Mathematics, University of Delhi
2015–2017 Main Coordinator, Pi Day Organizing Committee, Department of Mathematics, University of Delhi

Teaching Assistant

Fall 2017 MATH 1431, Calculus I University of Houston

Academic Events Attended

2016	Level II of the Mathematics Training and Talent Search (MTTS) Program 2016	Indian Institute of Technology (IIT), Madras
2014	Winter Student with Dr. Dishant Pancholi	Chennai Mathematical Institute, Chennai

Awards and Achievements

2017	Teaching Assistantship (For 5 years), University of Houston	
2017	Graduate Tuition Fellowship (For 5 years), University of Houston	
2014	One of the Top 15 students of Gujarat State in Prof. A.R. Rao Competition of Mathematics (Gujarat Ganit Mandal), 2014.	
2014	Stood Third in Gujarat State in Prof. A.R. Rao Essay Writing Competition of Mathematics (Gujarat Ganit Mandal), 2014.	
2013	Selected for level 'O' of MTTS Programme, 2013.	
2013	Stood Second in Vadodara City in Prof. A.R. Rao Competition of Mathematics (Gujarat Ganit Mandal), 2013.	
2009–2010	Won the Regional Level CBSE Science Exhibition (Mathematical Modeling Section) in 2009 and 2010 and hence qualified for the National Level CBSE Science Exhibition in 2009 and 2010.	
2007	Stood Second in Gujarat State in the State Level Inter School Slams Fair- 2007(Mathematical Modelling Section).	

Co-Curricular Activities

- [1] Actively participated in various Science Fairs and Quiz Competitions at High School and Undergraduate Level.
- [2] Actively organized Cultural and Educational Events on various occasions.
- [3] Consistent member of Badminton Teams in High School, University, State and National level.
- [4] Class Representative(M.Sc.), Department of Mathematics, University of Delhi, Delhi.
- [5] Active Blogger, Blogsite: <https://thoughtsaboutlife1.wordpress.com/>

List of Topics Studied in the Last Two Years

2017 **Fall Semester (PhD) at University of Houston:**

- Modern Algebra
- Topology
- Functions of Real Variables

Fourth Semester (MSc) at University of Delhi:

- Simplicial Homology Theory
- Calculus on \mathbb{R}^n
- Abstract Harmonic Analysis
- Optimization Techniques and Control Theory
- Topological Dynamics

2016 **Third Semester (MSc) at University of Delhi:**

- Measure Theory
- Topology II
- Fourier Analysis
- Coding Theory
- Algebraic Topology

Second Semester (MSc) at University of Delhi:

- Module Theory
- Topology I
- Functional Analysis
- Fluid Dynamics

2015 **First Semester (MSc) at University of Delhi:**

- Field Theory
- Measure and Integration
- Differential Equations
- Complex Analysis

Project Work Undertaken

I did a project titled “Innovations in Science and Technology: A Mathematical Perspective” during the Open House and Science Exhibition organised by Faculty of Science, The M.S. University of Baroda, Vadodara in association with the Indian Science Congress Association in January 2014. I studied famous problems like the Konigsberg Bridge Problem and Four Colour Problem that have been solved with the help of Graph Theory. I looked into an introductory course on Cryptography and did a comprehensive research regarding the various applications of cryptography that we come across in our daily lives. It was rather fascinating to see how patterns in real life like that of a flower can be related to the Fibonacci Sequence, how the structure of the Acropolis in Greece can be related with the Golden Ratio and a recent mathematical explanation, which uses non linear integral equations, for the success of the design of the Eiffel Tower. The project also involved a study of the applications of computer graphics and image processing in our lives, the use of differential equations to study aspects like time required in the cooking of a cake and the patterns of bacterial growth. It also involved a brief study of fuzzy logic and its use in washing machines, cookers, etc. All these things were then compiled into a PowerPoint Presentation which I presented.