

# MEGHANA BHAT <sup>1</sup>

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CONTACT INFORMATION	530 A-2 Science Indian Institute of Technology, Dharwad 580007 India.	Personal email - <code>mbhat.math@gmail.com</code> Institutional email- <code>212071001@gmail.com</code>
RESEARCH INTERESTS	Hilbert functions, Waring rank problem of forms.	
EDUCATION	<b>Indian Institute of Technology Dharwad</b>	
	Ph.D. in Mathematics CGPA: 9.56/10 • Project: Hilbert functions and applications • Advisor: Prof. Shreedevi Masuti	<b>July 2021- June 2026</b>
	<b>Pondicherry University, Pondicherry</b>	
	M.Sc. Mathematics CGPA: 9.49/10	<b>July 2019 - July 2021</b>
	<b>Mahatma Gandhi Memorial College, Udupi</b>	
	Bachelor of Science (Mathematics, Physics, Statistics) Percentage: 92.46%	<b>June 2016- June 2019</b>
HONOURS / AWARDS	Prime Minister's Research Fellowship (2022-26)  INSPIRE Scholarship (SHE) (2016-21)  National Means-Cum-Merit Scholarship Scheme Examination (NMMS) (2012-16)	
PREPRINTS / PUBLICATIONS	M. Bhat, S. Dubey, S. K. Masuti, T. Okuma, J. K. Verma, K. Watanabe, and K. Yoshida. <i>On Gorensteiness of associated graded rings of filtrations</i> . arXiv:2404.14189 (2024).  M. Bhat, S. Dubey, S. K. Masuti. <i>Symmetric decomposition of Hilbert functions for any ideals</i> . In preparation. arXiv: arXiv:2503.21173 (2025).  M. Bhat, E. Carlini, S. Dubey, S. K. Masuti. <i>Apolar sets of reducible forms</i> . In preparation. (2025).	
TALKS / POSTERS	<i>Ramanujan Mathematical Society Conference 2024</i> , Christ University, Bangalore, India, December 2024  <i>International conference on local rings and singularities</i> , IIT Bombay, India, June 2024  <i>Seminars of Algebra, Algebraic Geometry and their applications</i> , Politecnico Di Torino, Italy, April 2024  <i>One day symposium on Algebra and Geometry</i> , IIT Dharwad, April 2024	

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<sup>1</sup><https://meghanabht.github.io/>

RESEARCH VISITS	<p>Politecnico Di Torino, Italy (Host: Prof. E. Carlini, funded by SERB-SPARC grant of Prof. Shreedevi Masuti), April -June 2025 and April-May 2024</p> <p>IIT Bombay, India (Host: Prof. Jugal Verma), June 2023</p>
CONFERENCES / WORKSHOPS	<p><i>Recent trends in commutative algebra</i>, IIT Bombay, India, June 2024</p> <p><i>International conference on local rings and singularities</i>, IIT Bombay, India, June 2024</p> <p><i>Introductory workshop : Commutative algebra</i>, SL Math Institute Berkeley (MSRI), USA, January 2024</p> <p><i>Hilbert functions and local cohomology</i>, IIT Bombay, India, Nov 2023</p> <p><i>School and workshop on Commutative Algebra and Algebraic Geometry in Prime Characteristics and Workshop on Commutative Algebra and Algebraic Geometry in Prime Characteristics</i>, ICTP Italy, May 2023</p> <p><i>Conference on Commutative Algebra and Algebraic Geometry (CoCAAG-2023)</i>, IIT Hyderabad, India. February 2023</p> <p><i>Maximal Cohen-Macaulay Modules</i>, NCM Workshop, CMI, Chennai, July 2022</p> <p><i>Sagedays 114</i>, The Institute of Mathematical Sciences, Chennai, July 2022</p>
TEACHING EXPERIENCE	<p>TA for Statistics (B.Tech.), Spring 2025</p> <p>TA for Calculus (B.Tech.), Autumn 2024</p> <p>TA for Linear Algebra, Differential Equations-I (B.Tech.), Spring 2024</p> <p>TA for Complex Analysis, Differential Equations-II (B.Tech.), Autumn 2023</p> <p>TA for Calculus-I,II, Linear Algebra (B.Tech.), Spring 2023</p> <p>TA for Linear Algebra, Differential Equations-I (B.Tech.), Spring 2022</p> <p>TA for Complex Analysis, Differential Equations-II (B.Tech.), Autumn 2021</p> <p>Instructor for the course Operations research (M.Sc.), KCD College Dharwad, Jan-March 2024</p> <p>Mentor for the Online Foundation Course in Mathematics held online by MTTS (OFCM-2020) and (OFCM-2023).</p>
COMPUTING SKILLS	<p>Basics of programming [Language: Python]</p> <p>Computer algebra systems (Macaulay2, Singular, CoCoA)</p> <p>Math typesetting in <math>\text{\LaTeX}</math></p>
EXTRA CURRICULAR	<p>Senate representative (PG) (2023-25)</p> <p>DPGC student member (2023-25)</p> <p>PGAPEC student member (2023-25)</p>