



Dr. Manjul Bhargava

*Professor
Princeton University*

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Manjul Bhargava is the R. Brandon Fradd Professor of Mathematics at Princeton University, and also holds Adjunct Professor positions at the Tata Institute of Fundamental Research in Mumbai, at IIT-Bombay, and at the University of Hyderabad. He also holds the Stieltjes Chair, an endowed Professorship at Leiden University in the Netherlands. He is recognized worldwide as one of the foremost mathematicians of our times and one of the leading experts in Number Theory, a branch of Mathematics in which he has made several pioneering breakthroughs. Professor Bhargava is also widely acclaimed for his teaching and his efforts to disseminate mathematics and improve mathematics education around the world, not surprisingly making him one of the most sought-after teachers and public speakers in the subject. In addition, he is an accomplished tabla player and classical Indian musician, and holds deep rooted interests in Indian languages, particularly Sanskrit.

Professor Bhargava was born in 1974 in Hamilton, Ontario, Canada, but grew up mostly in Long Island, New York and also spent much time in Jaipur, Rajasthan. He graduated from high school as class valedictorian. He subsequently attended Harvard University where he obtained an A.B. summa cum laude in Mathematics. His seminal work on the factorial function and integer-valued polynomials while a student at Harvard earned him the Frank and Brennie Morgan Prize for the best research in mathematics by an undergraduate student in the U.S.A. He then attended Princeton University to pursue his Ph.D. in mathematics under the advisorship of Andrew Wiles. His Ph.D. thesis broke new grounds on a problem that saw no progress for 200 years and earned him the Blumenthal Award, given to the best Ph.D. thesis written in mathematics anywhere in the world.

After a year each at the Institute for Advanced Study and at Harvard University, only two years after receiving his Ph.D., Bhargava was appointed directly as a Tenured Full Professor at Princeton University (skipping the ranks of Lecturer, Assistant Professor, and Associate Professor), at the age of 28, making him one of the youngest tenured full professors in history. Shortly thereafter, he was also appointed Adjunct Professor at the Tata Institute of Fundamental Research, IIT-Bombay, and the University of Hyderabad, where he continues to spend much time.

His groundbreaking research work in mathematics has included the solution of a problem on integer-valued polynomials posed in 1919 by Polya, a novel generalization of the factorial function, several extensions of the classical composition laws of Brahmagupta and Gauss, a determination of the densities of discriminants of quartic and quintic number fields, a proof of the first known case of the Cohen-Lenstra-Martinet conjectures on class groups, a proof (jointly with Jonathan Hanke) of John Conway's 290-Conjecture, a proof (jointly with Arul Shankar) of the boundedness of the average rank of elliptic curves, and a demonstration that most hyperelliptic curves have no rational points.

His research work has involved the introduction of a number of new techniques and tools into the subject that are opening up whole new areas of mathematical research, including the systematic use of algebraic groups and representations defined over the whole numbers, and new methods in the geometry-of-numbers that have allowed Professor Bhargava to determine the distribution of basic arithmetic objects with respect to their fundamental invariants.

Professor Bhargava has received numerous awards and honors for his work, including the the SASTRA Ramanujan Prize (2005), the Packard Fellowship (2005), the Clay Research Award (2005), the AMS Cole Prize (2008), the Fermat Prize (2011), the Infosys Prize (2012), Election to the U.S. National Academy of Sciences (2013), and Election to the Indian National Science Academy (2014). In addition, Professor Bhargava has also won numerous awards for his teaching, public lectures, and exposition, including the Derek Bok Award, the Vanguard Fellows Award, and the Merten Hasse Prize. In August 2014, Professor Bhargava was awarded the 2014 Fields Medal, considered the highest honor a mathematician can receive. Professor Bhargava is the first mathematician of Indian origin to receive the Fields Medal, known as the "Nobel Prize of Mathematics".

In 2015, Professor Bhargava was awarded the Padma Bhushan from the President of India.

