M. Ram Murty

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Wiki: https://en.wikipedia.org/wiki/M._Ram_Murty

Site: https://mast.queensu.ca/~murty/

By Anna Zhebrun

Maruti Ram Pedaprolu Murty was born on October 16th, 1953 in Guntur, India. In 1980 he received his PhD from the Massachusetts Institute of Technolog for his work, *Artin's Conjecture and Non-Abelian Sieves,* under the supervision of Harold Stark and Dorian Goldfeld. For a while he worked at McGill University, until eventually he joined Queen's University where he is currently a professor of mathematics and philosophy. Dr. Murty's research focus is on number theory and allied areas, with particular interest in the theory of zeta and L-functions and the distribution of prime numbers.

At the Ramanujan Conference of 1987, Dr. Murty spoke about the tau function that was introduced by Ramanujan in 1916. Interestingly, Ramanujan's equally famous mentor, G. H. Hardy, hadn't realized the importance of this function at the time. Prior to the conference, Dr. Murty had proven a conjecture on behavior of the Tau function that was stated by Robert Ranken, who had previously made a lot of contributions in the area. His discussion of the importance and implications of the tau function was also published in the book Ramanujan revisited, which collected all the proceedings of the conference.

In his recollection of the Conference, Dr. Murty shared with me that the most memorable and inspiring parts were the people. He admired Komaravolu Chandrasekhara, an astrophysicist, who was from the same place as Ramanujan and was a child during Ramanujan's discoveries. After starting out in mathematics, Chandrasekhara became interested in relativity and the existence of black holes and in 1983 he was awarded the Nobel Prize for the discovery of black holes. At the conference, Chandrasekhara was trying to collect donations to care for Ramanujan's wife.

Dr. Murty also met Freeman Dyson, a great theoretical and mathematical physicist, and was very inspired by his work. And of course, Ramanujan himself, as a self-taught mathematician inspires everyone to strive for knowledge even when formal education is out of reach.

Inspired by people, Dr. Murty has dedicated much of his time to writing textbooks accessible to students that would allow them to learn the material themselves. He is most proud of his trilogy: Problems in Algebraic Number Theory, Problems in Analytic Number Theory, and Problems in the Theory of Modular Forms. He believes that this trilogy and his other textbooks are his most important contributions, which will be able to reach audiences worldwide for years to come. Right now, he is coauthoring an intermediate level book on finite groups.

Additionally, since the conference, Dr. Murty has continued to make contributions to number theory and the tau function. He has made significant progress trying to prove the primate root conjecture. In a way, math is the natural philosophy, and the code of numbers is the language of the universe. This idea encouraged Dr. Murty to specialize in Indian philosophy. His love for knowledge and discovery and his passion for teaching shines bright in every part of his academic life.