

Institute Colloquium on “From pattern recognition to discovering binomial coefficients” on 13th November, 2017

IIT Mandi Colloquium organized a talk on From pattern recognition to discovering binomial coefficients on 13th November, 2017. The talk was delivered by Dr. K. Ramasubramanian.



Dr. K. Ramasubramanian, Professor at IIT Bombay in the cell for Indian science and technology in Sanskrit (Department of Humanities and Social Sciences). He holds doctorate in Theoretical Physics, a Bachelors in Engineering, and a Masters in Sanskrit. He was honored with the title “Vidvat Pravara” after completing a rigorous course in Advaita Vedanta (a 14 sem. program) by Shankaracharya of Sri Sringeri Sharada Peetham in 2003. He is one of the authors who prepared detail Explanatory Notes of the celebrated works Ganita- yuktibhasa (relations in Mathematical Astronomy) and Tantrasangraha which brings out the seminal concentrations of the Kerala School of astronomers and mathematician in the field of Mathematics and Astronomy. He was also conferred the prestigious Maharshi Badarayan Vyas Samman by the President of India in 2008 for his outstanding research work done by him to the process of synergy between modernity and tradition.

In the context of studying prosody, Pingala, the author of Chandas-sastra (3rd cent BCE) commences his work with a few aphorisms (sutras) to define mnemonics for pattern recognition in Sanskrit literature. Then using these mnemonics, he defines a variety of different meters employed in vedic as well as classical literature, and finally ends his treatise with interesting problems connected with combinatorics. Towards the end of the text, we also find a sutra that succinctly presents a method to construct binomial coefficients. Interestingly we also find explicit reference of the word 'shunya', generally used to refer to the number zero, in a completely unexpected context. The lecture aims to highlight how various key concepts and algorithms emerge in different cultures in completely different ways.

