

Joint Number Theory Seminar of ISI Kolkata and RKMVERI

Time: 31.01.2020

Venue: Class Room 402 at Prajna Bhavan, RKMVERI

Time table

11:00-11:50	Sukumar Das Adhikari	Title: Algebraic methods in the study of some zero-sum constants
11:50-12:10	Tea break	
12:10-13:00	Kaneenika Sinha	Title: Central limit theorems for Sato-Tate sequences
13:00-14:30	Lunch break	
14:30-15:20	Ravindranathan Thangadurai	Title: On simultaneous approximation of algebraic numbers
15:20-15:50	Tea break	
15:50-16:40	Ritabrata Munshi	Title: Weyl and sub-Weyl

Abstracts:

Sukumar Das Adhikari: A particular weighted generalization of some classical zero-sum constants was first considered about fourteen years back. Since then, many people got interested in this generalization. Similar generalizations of other zero-sum constants were also considered and these gave rise to several conjectures and questions; some of these conjectures have been established, some of the questions have been answered. And most interestingly, some applications of this weighted generalization have also been found. After a short discussion on some algebraic methods for the classical results, we shall have a glimpse of the weighted generalization.

Ritabrata Munshi: TBA

Kaneenika Sinha: We describe central limit theorems for the error term in the Sato-Tate law for families of modular forms as well as elliptic curves. We also indicate how these theorems can be understood in the classical framework of central limit theorems for independent random variables. This talk is based on recent joint work with Stephan Baier and Neha Prabhu.

Ravindranathan Thangadurai: In 2004, Corvaja and Zannier proved ‘a moving target’ Roth theorem and using this, they solved a question of Mahler. In particular, one of their result states that “If $\alpha > 1$ is a real algebraic number such that $||\alpha^n|| < l^n$ for some $0 < l < 1$ and for infinitely many n , then there is a positive integer d such that α^d

is a Pisot number.” In this talk, we review this result and report on a recent result which generalises the result Corvaja and Zannier. This is a joint work with Dr. Veekesh Kumar.