School of Mathematics
Tata Institute of Fundamental Research

Mathematics Colloquium

Speaker	:	***Yann Bugeaud***
Affiliation	:	***Université de Strasbourg***
Title	:	***On the decimal expansion of*** $\log(2020/2019)$ ***and*** e***.***
Date & Time	:	***Thursday, 13 February, 2020 at 04.00 p.m.***
Venue	:	***Lecture Room (AG-69)***

Abstract

It is commonly expected that e, $\log 2$, $\sqrt{2}$, π, among other classical numbers, behave, in many respects, like almost all real numbers. For instance, they are expected to be normal to base 10, that is, one believes that their decimal expansion contains every finite block of digits from $\{0,\ldots,9\}$. We are very far away from establishing such a strong assertion. However, there has been some small recent progress in that direction. After surveying classical results and problems on normal numbers, we will adopt a point of view from combinatorics on words and show that the decimal expansions of e, of any irrational algebraic number, and of $\log(1 + \frac{1}{a})$, for a sufficiently large integer a, cannot be 'too simple', in a suitable sense.

Milind Pilankar

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