



## Mathematics Seminar Series

Special Seminar, Monsoon 2019

December 10, 2019, Tuesday

**M. Ram MURTY, Mathematics and Statistics, Queen's University**

### Seminar

**Counting points on elliptic curves (mod  $p$ )**

**A007, 12:00–13:00**

We will discuss some elementary methods to obtain non-trivial estimates towards the celebrated Hasse bound that counts points on elliptic curves (mod  $p$ ).

### Colloquium

**What is the central limit theorem?**

**A007, 15:00–16:00**

The central limit theorem is considered perhaps the most influential theorem of mathematics in the 20th century. It has had significant applications both within mathematics and beyond, energizing literally every other field outside such as medicine, economics and even political theory. After a short history of the evolution of the central limit theorem, we will describe its impact in algebra and number theory and discuss some new applications. This talk will be accessible to a general audience.

### Reception

**Foyer of R&D building, 16:00–17:00**

Light refreshments will be served after the talk and Prof. Murty will be available for discussions. All are welcome!

M. Ram Murty is Douglas Distinguished University Professor & Queen's Research Chair at Queen's University, Canada. Prof. Murty's research broadly encompasses Number Theory and includes Modular Forms, Elliptic Curves, and Sieve Theory. He is an elected fellow of Royal Society of Canada (1990), Fields Institute (2003), National Academy of Sciences India (2007), Indian National Science Academy (2008), American Mathematical Society (2012), and Canadian Mathematical Society (2018). He has won numerous awards throughout a highly distinguished career including Coxeter-James Prize (1988), Balaguer Prize (1996), Jeffery-Williams Prize (2003), Queen's Research Prize (2003), and Award for Excellence in Graduate Student Supervision (2018). Prof. Murty has advised 36 Ph.D. students, and has a cross appointment in the Department of Philosophy at Queen's. He is also an author or co-author of 13 books with some recent ones being "Hilbert's Tenth Problem" with Brandon Fodden (2019) and "Indian Philosophy: An Introduction" (2013).

