Benedict Gross

George Vasmer Leverett Professor of Mathematics, Harvard University

Solving Cubic Equations

I will discuss a problem which has been central in number theory for several centuries – whether a cubic equation in the plane has infinitely many rational solutions. This led to a precise conjecture by Birch and Swinnerton-Dyer in the 1960s, and to some partial progress in the 1980s. More recently, Manjul Bhargava has introduced a new method to study the average number of solutions.

I will give some idea of the historical development of this subject, and will try to illustrate the excitement of working in this field.

Professor **Benedict Gross** is a distinguished number theorist who has made fundamental contributions to many aspects of the subject. His most famous result is the Gross-Zagier formula, whose generalizations and higher dimensional analogues will continue to fascinate generations of mathematicians.

Professor Gross is known for clarity of thought and exposition. He will be talking about Arithmetic of Elliptic curves, one of his major research interests.

Professor Gross received his PhD from Harvard in 1978, and returned as a full professor in 1985, where he has served as the chair of the mathematics department and as the Dean of Harvard College. Professor Gross was awarded a MacArthur Fellowship in 1986, the Cole Prize of the American Mathematical Society in 1987, and was elected a member of the National Academy of Science in 2004.

Professor Gross is returning to India after 40 years: his previous visit was in 1971, when he studied Carnatic violin in Chennai.

PUBLIC LECTURE

Friday, 6 January 2012, 5:15 pm | Lecture Theatre, AG 66, TIFR, Mumbai

ALL ARE WELCOME