SRINIVASA RAMANUJAN

Srinivasa Ramanujan was born in 1887 in Erode, Tamil Nadu, India. He grew up in poverty and hardship. Ramanujan was unable to pass his school examinations, and could only obtain a clerk's position in the city of Madras. However, he was a genius in pure mathematics and essentially self-taught from a single text book that was available to him. He continued to pursue his own mathematics, and sent letters to three mathematicians in England, containing some of his results. While two of the three returned the letters unopened, G.H. Hardy recognized Ramanujan's intrinsic mathematical ability and arranged for him to go to Cambridge. Hardy was thus responsible for making Ramanujan's work known to the world during the latter's own lifetime.

Ramanujan made spectacular contributions to elliptic functions, continued fractions, infinite series, and analytical theory of numbers.

Ramanujan's health deteriorated rapidly while in England. He was sent home to recuperate in 1919, but died the next year at the age of 32.

RAMANUJAN PRIZE SCULPTURE

The Ramanujan Prize sculpture is an exact miniature replica of the statue of Srinivasa Ramanujan that is kept in the ICTP Marie Curie Library. The bronze bust of Ramanujan was donated to ICTP by the SASTRA University in India, where the original bust is kept.

A CELEBRATION OF MATHEMATICS

2016 RAMANUJAN PRIZE AWARD CEREMONY

ICTP
4 November 2016

ICTP The Abdus Salam International Centre for Theoretical Physics

IAEA

Department of Science and Technology of the Government of India

International Mathematical Union (IMU)

2016 RAMANUJAN PRIZE CITATION

This year's Ramanujan Prize is awarded to Chenyang Xu of Beijing International Center of Mathematical Research in China. The prize is in recognition of Xu's outstanding works in algebraic geometry, notably in the area of birational geometry, including works both on log canonical pairs and on Q-Fano varieties, and on the topology of singularities and their dual complexes.

More specifically, Xu proved in joint works with C. Hacon and J. McKernan the boundedness of log canonical pairs and resolved in the affirmative Shokurov's ACC (Ascending Chain Condition) Conjecture on log canonical thresholds. Xu established in a joint work with C. Li a procedure by which any generically Q-Fano test configuration can be replaced by a special test configuration with Q-Fano fibers such that the Donaldson-Futaki invariant does not increase, thereby reducing K-stability issues to testing against such special test configurations. Xu proved the finiteness of algebraic fundamental groups of klt (Kawamata log terminal) singularities and in a joint work with Kollár proved for a Calabi-Yau pair (X, D) that the fundamental group of the dual complex of D is a quotient of the fundamental group of the smooth locus of X.

The 2016 Ramanujan Prize Selection Committee consisted of Idris Assani, Rajendra Bhatia, Stefano Luzzatto (chair), Maryam Mirzakhani, and Ngaiming Mok.

RAMANUJAN PRIZE

In 2005 the Abdus Salam International Centre for Theoretical Physics (ICTP) established the Srinivasa Ramanujan Prize for Young Mathematicians from Developing Countries, named after the mathematics genius from India. This Prize is awarded annually to a mathematician under 45. Since the mandate of ICTP is to strengthen science in developing countries, the Ramanujan Prize has been created for mathematicians from developing countries. Since Ramanujan is the quintessential symbol of the best in mathematics from the developing world, naming the Prize after him seemed entirely appropriate.

The Prize is funded jointly by the Department of Science and Technology of the Government of India in collaboration with ICTP and the participation of the International Mathematical Union.

A CELEBRATION OF MATHEMATICS

2016 RAMANUJAN PRIZE AWARD CEREMONY

4 November 2016

Budinich Lecture Hall, Leonardo Building

11:00

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Program

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Welcome remarks by ICTP Director Fernando Quevedo

Introduction of Chenyang Xu, recipient of the 2016 Ramanujan Prize, by Stefano Luzzatto, ICTP

Ramanujan Lecture, "Classification of algebraic varieties", by Chenyang Xu, International Center of Mathematical Research, Beijing, China:

> Algebraic varieties are the geometric objects given by common solutions of a set of polynomials. Studying its structure is a problem which goes back to Abel, Jacobi and Riemann. While the theory of two dimensional case was developed systematically by the Italian school in the early 20th century, people only started a program to understand the higher dimensional case in the late 1970s. Xu will survey the breakthroughs made by many people in the last decade.